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☐	L88	530/350.CCLS.	14835
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☐	L62	Burgess-Catherine.IN.	13
☐	L61	Burgess-C-E.IN.	137
☐	L60	Burgess-Catherine-E.IN.	116
☐	L59	Burgess.IN.	4134

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☐	L57	Lepley-D-M.IN.	61
☐	L56	Lepley-Denise.IN.	1
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☐	L54	Lepley.IN.	280
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☐	L51	Alsobrook-John.IN.	0
☐	L50	Alsobrook-John-P.IN.	1
☐	L49	Alsobrook.IN.	225
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☐	L34	Shenoy-S-G.IN.	90
☐	L33	Shenoy-Suresh-G.IN.	67
☐	L32	Shenoy.IN.	522
☐	L31	Shenoy.IN.	522
☐	L30	Spytek-K.IN.	9
☐	L29	Spytek-K-A.IN.	174
☐	L28	Spytek-Kimberly.IN.	9
☐	L27	Spytek-Kimberly-A.IN.	124
☐	L26	Spytek-Kimberly-Ann.IN.	8
☐	L25	Spytek.IN.	319
☐	L24	Zerhusen-B.IN.	12
☐	L23	Zerhusen-B-D.IN.	93
☐	L22	Zerhusen-Bryan-D.IN.	76
☐	L21	Zerhusen.IN.	220
☐	L20	Shimkets-R.IN.	7
☐	L19	Shimkets-R-A.IN.	188

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☐	L18	Shimkets-Richard-A.IN.	154
☐	L17	Shimkets.IN.	356
☐	L16	Spaderna-S.IN.	154
☐	L15	Spaderna-S-K.IN.	53
☐	L14	Spaderna-Steven-K.IN.	33
☐	L13	Spaderna-Steven-Kurt.IN.	6
☐	L12	Spaderna.IN.	154
☐	L11	Rastelli-L.IN.	114
☐	L10	Rastelli-Luca.IN.	80
☐	L9	Rastelli.IN.	276
☐	L8	Padigaru-M.IN.	152
☐	L7	Padigaru-Muralidhara.IN.	116
☐	L6	Padigaru.IN.	270
☐	L5	Taupier-Raymond.IN.	0
☐	L4	Taupier-R-J.IN.	100
☐	L3	Taupier-Ray-J.IN.	0
☐	L2	Taupier-Raymond-J.IN.	4
☐	L1	(Taupier.IN.)	180

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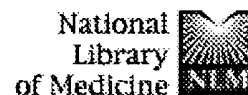
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PMID: 15170863 [PubMed - indexed for MEDLINE]

☐ **2:** Zhong Y, Takemoto M, Fukuda T, Hattori Y, Murakami F,   Related Articles, Links
Nakajima D, Nakayama M, Yamamoto N.

Identification of the Genes that are Expressed in the Upper Layers of the Neocortex.
Cereb Cortex. 2004 May 13 [Epub ahead of print]
PMID: 15142956 [PubMed - as supplied by publisher]

☐ **3:** Nishiyama M, Hoshino A, Tsai L, Henley JR, Goshima Y, Tessier-   Related Articles, Links
Lavigne M, Poo MM, Hong K.

Cyclic AMP/GMP-dependent modulation of Ca2+ channels sets the polarity of nerve growth-cone turning.
Nature. 2003 Jun 26;423(6943):990-5.
PMID: 12827203 [PubMed - indexed for MEDLINE]

☐ **4:** Geisbrecht BV, Dowd KA, Barfield RW, Longo PA, Leahy DJ.   Related Articles, Links

Netrin binds discrete subdomains of DCC and UNC5 and mediates interactions between DCC and heparin.
J Biol Chem. 2003 Aug 29;278(35):32561-8. Epub 2003 Jun 16.
PMID: 12810718 [PubMed - indexed for MEDLINE]

☐ **5:** Guan W, Condic ML.   Related Articles, Links

Characterization of Netrin-1, Neogenin and cUNC-5H3 expression during chick dorsal root ganglia development.
Gene Expr Patterns. 2003 Jun;3(3):369-73.
PMID: 12799087 [PubMed - indexed for MEDLINE]

☐ **6:** Tsai HH, Tessier-Lavigne M, Miller RH.   Related Articles, Links

Netrin 1 mediates spinal cord oligodendrocyte precursor dispersal.
Development. 2003 May;130(10):2095-105.
PMID: 12668624 [PubMed - indexed for MEDLINE]

☐ **7:** Engelkamp D.   Related Articles, Links

Cloning of three mouse Unc5 genes and their expression patterns at mid-gestation.
Mech Dev. 2002 Oct;118(1-2):191-7.
PMID: 12351186 [PubMed - indexed for MEDLINE]

☐ **8:** Keleman K, Dickson BJ.   Related Articles, Links

Short- and long-range repulsion by the Drosophila Unc5 netrin receptor.
Neuron. 2001 Nov 20;32(4):605-17.
PMID: 11719202 [PubMed - indexed for MEDLINE]

Hong K, Hinck L, Nishiyama M, Poo MM, Tessier-Lavigne M.

☐ 9: Stein E.   Related Articles, Links

A ligand-gated association between cytoplasmic domains of UNC5 and DCC family receptors converts netrin-induced growth cone attraction to repulsion.
Cell. 1999 Jun 25;97(7):927-41.
PMID: 10399920 [PubMed - indexed for MEDLINE]

☐ 10: Wang H, Copeland NG, Gilbert DJ, Jenkins NA, Tessier-Lavigne   Related Articles, Links
M.

Netrin-3, a mouse homolog of human NTN2L, is highly expressed in sensory ganglia and shows differential binding to netrin receptors.
J Neurosci. 1999 Jun 15;19(12):4938-47.
PMID: 10366627 [PubMed - indexed for MEDLINE]

☐ 11: Bloch-Gallego E, Ezan F, Tessier-Lavigne M, Sotelo C.   Related Articles, Links

Floor plate and netrin-1 are involved in the migration and survival of inferior olivary neurons.
J Neurosci. 1999 Jun 1;19(11):4407-20.
PMID: 10341242 [PubMed - indexed for MEDLINE]

☐ 12: Ackerman SL, Knowles BB.   Related Articles, Links

Cloning and mapping of the UNC5C gene to human chromosome 4q21-q23.
Genomics. 1998 Sep 1;52(2):205-8.
PMID: 9782087 [PubMed - indexed for MEDLINE]

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L2    ANSWER 1 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN    2004:412914  CAPLUS
DN    140:418551
TI    Genes inducible by BHDF, a method for increasing synaptic growth or
      plasticity by overexpressing the same, and therapeutic uses
IN    Black, Ira B.
PA    University of Medicine and Dentistry of New Jersey, USA
SO    PCT Int. Appl., 73 pp.
      CODEN: PIXXD2
DT    Patent
LA    English
FAN.CNT 1
      PATENT NO.        KIND  DATE          APPLICATION NO.   DATE
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PI    WO 2004041778     A2    20040521      WO 2003-US34777   20031031
      W:   AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
           GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
           LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
           PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
           TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY,
           KG, KZ, MD, RU
      RW:  BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
           BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
           MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
           GQ, GW, ML, MR, NE, SN, TD, TG
PRAI  US 2002-422986P   P     20021101

L2    ANSWER 2 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN    2004:293433  CAPLUS
DN    140:333590
TI    Human cDNA sequences and their encoded proteins and diagnostic and
      therapeutic uses
IN    Shimkets, Richard A.; Taupier, Raymond J.; Burgess, Catherine E.;
      Zerhusen, Bryan D.; Mezes, Peter S.; Rastelli, Luca; Malyankar, Uriel M.;
      Grosse, William M.; Alsobrook, John P.; Lepley, Denise M.; Spytek,
      Kimberly Ann; Li, Li; Edinger, Shlomit; Gerlach, Valerie; Ellerman, Karen;
      MacDougall, John R.; Gunther, Erik; Millet, Isabelle; Stone, David J.;
      Smithson, Glennda; Szekeres, Edward S.; Ji, Weizhen
PA    USA
SO    U.S. Pat. Appl. Publ., 248 pp., Cont.-in-part of U.S. Ser. No. 972,211.
      CODEN: USXXCO
DT    Patent
LA    English
FAN.CNT 2
      PATENT NO.        KIND  DATE          APPLICATION NO.   DATE
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PI    US 2004068095     A1    20040408      US 2002-96625     20020313
      US 2004048245     A1    20040311      US 2001-972211    20011005
PRAI  US 2001-275892P   P     20010314
      US 2001-296860P   P     20010608
      US 2001-972211    A2    20011005
      US 2000-238323P   P     20001005
      US 2000-238325P   P     20001005
      US 2000-238372P   P     20001006
      US 2000-238373P   P     20001006
      US 2000-238379P   P     20001006
      US 2000-238382P   P     20001006
      US 2000-238383P   P     20001006
      US 2000-238384P   P     20001006
      US 2000-238397P   P     20001006
      US 2000-238400P   P     20001006
      US 2000-238401P   P     20001006
      US 2000-238402P   P     20001006

L2    ANSWER 3 OF 104  USPATFULL on STN
AN    2004:138995  USPATFULL
TI    System and method for neuronal network analysis
IN    Evans, Daron G., Dallas, TX, UNITED STATES
PI    US 2004106168     A1    20040603
AI    US 2003-370786    A1    20030220 (10)
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PRAI   US 2002-430409P      20021202 (60)
DT     Utility
FS     APPLICATION
LN.CNT 1747
INCL   INCLM: 435/040.500
       INCLS: 435/029.000; 435/283.100
NCL    NCLM:  435/040.500
       NCLS:  435/029.000; 435/283.100
IC     [7]
       ICM: G01N033-48
       ICS: C12M001-00
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2     ANSWER 4 OF 104  USPATFULL on STN
AN     2004:126898  USPATFULL
TI     Novel proteins and nucleic acids encoding same
IN     Taupier, Raymond J., JR., East Haven, CT, UNITED STATES
       Padigaru, Muralidhara, Branford, CT, UNITED STATES
       Rastelli, Luca, Guilford, CT, UNITED STATES
       Spaderna, Steven Kurt, Berlin, CT, UNITED STATES
       Shimkets, Richard A., West Haven, CT, UNITED STATES
       Zerhusen, Bryan D., Branford, CT, UNITED STATES
       Spytek, Kimberly Ann, New Haven, CT, UNITED STATES
       Shenoy, Suresh G., Branford, CT, UNITED STATES
       Li, Li, Cheshire, CT, UNITED STATES
       Gusev, Vladimir Y., Madison, CT, UNITED STATES
       Grosse, William M., Branford, CT, UNITED STATES
       Alsobrook, John P., II, Madison, CT, UNITED STATES
       Lepley, Denise M., Branford, CT, UNITED STATES
       Burgess, Catherine E., Wethersfield, CT, UNITED STATES
       Gerlach, Valerie L., Branford, CT, UNITED STATES
       Ellerman, Karen, Branford, CT, UNITED STATES
       MacDougall, John R., Hamden, CT, UNITED STATES
       Stone, David J., Guilford, CT, UNITED STATES
       Smithson, Glennda, Guilford, CT, UNITED STATES
PI     US 2004096877      A1    20040520
AI     US 2003-624932     A1    20030721 (10)
RLI    Continuation of Ser. No. US 2001-918779, filed on 30 Jul 2001, ABANDONED
PRAI   US 2000-221409P      20000728 (60)
       US 2000-222840P      20000804 (60)
       US 2000-223752P      20000808 (60)
       US 2000-223762P      20000808 (60)
       US 2000-223770P      20000808 (60)
       US 2000-223769P      20000808 (60)
       US 2000-225146P      20000814 (60)
       US 2000-225392P      20000815 (60)
       US 2000-225470P      20000815 (60)
       US 2000-225697P      20000816 (60)
       US 2001-263662P      20010201 (60)
       US 2001-281645P      20010405 (60)
DT     Utility
FS     APPLICATION
LN.CNT 11006
INCL   INCLM: 435/006.000
       INCLS: 435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.100;
          536/023.500
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       NCLS:  435/069.100; 435/320.100; 435/325.000; 530/350.000; 530/388.100;
          536/023.500
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       ICM: C12Q001-68
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CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2     ANSWER 5 OF 104  USPATFULL on STN
AN     2004:94708  USPATFULL
TI     Molecular toxicology modeling
IN     Mendrick, Donna, Gaithersburg, MD, UNITED STATES
       Porter, Mark, Gaithersburg, MD, UNITED STATES
       Johnson, Kory, Gaithersburg, MD, UNITED STATES
       Higgs, Brandon, Gaithersburg, MD, UNITED STATES
       Castle, Arthur, Gaithersburg, MD, UNITED STATES
       Elashoff, Michael, Gaithersburg, MD, UNITED STATES
PI     US 2004072160      A1    20040415
AI     US 2002-152319     A1    20020522 (10)
PRAI   US 2001-292335P      20010522 (60)
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            US 2001-297523P       20010613 (60)
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DT      Utility
FS      APPLICATION
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CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2      ANSWER 6 OF 104   USPATFULL on STN
AN      2004:69579  USPATFULL
TI      Proteins and nucleic acids encoding same
IN      Kekuda, Ramesh, Danbury, CT, UNITED STATES
        Alsobrook, John P., II, Madison, CT, UNITED STATES
        Tchernev, Velizar T., Branford, CT, UNITED STATES
        Liu, Xiaohong, Branford, CT, UNITED STATES
        Spytek, Kimberly A., New Haven, CT, UNITED STATES
        Patturajan, Meera, Branford, CT, UNITED STATES
        Grosse, William M., Branford, CT, UNITED STATES
        Lepley, Denise M., Branford, CT, UNITED STATES
        Burgess, Catherine E., Wethersfield, CT, UNITED STATES
        Vernet, Corine A.M., Branford, CT, UNITED STATES
        Li, Li, Branford, CT, UNITED STATES
        Gorman, Linda, Branford, CT, UNITED STATES
        Edinger, Shlomit R., New Haven, CT, UNITED STATES
        Sciore, Paul, North Haven, CT, UNITED STATES
        Ellerman, Karen, Branford, CT, UNITED STATES
        Malyankar, Uriel M., Branford, CT, UNITED STATES
        Rothenberg, Mark E., Clinton, CT, UNITED STATES
        Stone, David J., Guilford, CT, UNITED STATES
        Boldog, Ferenc L., North Haven, CT, UNITED STATES
        Guo, Xiaojia (Sasha), Branford, CT, UNITED STATES
        Shenoy, Suresh G., Branford, CT, UNITED STATES
        Anderson, David W., Branford, CT, UNITED STATES
        Padigaru, Muralidhara, Branford, CT, UNITED STATES
        Taupier, Raymond J., JR., East Haven, CT, UNITED STATES
        Miller, Charles E., Guilford, CT, UNITED STATES
        Eisen, Andrew, Rockville, MD, UNITED STATES
PI      US 2004052806     A1    20040318
AI      US 2002-37417     A1    20020104 (10)
PRAI    US 2001-260018P      20010105 (60)
        US 2001-260360P      20010108 (60)
        US 2001-272411P      20010228 (60)
        US 2001-272817P      20010302 (60)
        US 2001-291186P      20010515 (60)
        US 2001-303231P      20010705 (60)
        US 2001-305060P      20010712 (60)
        US 2001-318405P      20010910 (60)
        US 2001-318700P      20010912 (60)
DT      Utility
FS      APPLICATION
LN.CNT 13212
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INCL    INCLM: 424/185.100
        INCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
               536/023.200
NCL     NCLM:  424/185.100
        NCLS:  435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
               536/023.200
IC      [7]
        ICM: C07H021-04
        ICS: C12N009-00; A61K039-00; C12P021-02; C12N005-06; C07K014-47
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2      ANSWER 7 OF 104  USPATFULL on STN
AN      2004:63731  USPATFULL
TI      Novel nucleic acids and secreted polypeptides
IN      Tang, Y. Tom, San Jose, CA, UNITED STATES
        Yang, Yonghong, San Jose, CA, UNITED STATES
        Weng, Gezhi, Piedmont, CA, UNITED STATES
        Zhang, Jie, Campbell, CA, UNITED STATES
        Ren, Feiyan, Cupertino, CA, UNITED STATES
        Xue, Aidong, Sunnyvale, CA, UNITED STATES
        Wang, Jian-Rui, Cupertino, CA, UNITED STATES
        Wehrman, Tom, Stanford, CA, UNITED STATES
        Ghosh, Malabika J., Sunnyvale, CA, UNITED STATES
        Wang, Dunrui, Poway, CA, UNITED STATES
        Zhao, Qing A., San Jose, CA, UNITED STATES
        Wang, Zhiwei, Sunnyvale, CA, UNITED STATES
PI      US 2004048249      A1     20040311
AI      US 2002-112944     A1     20020328 (10)
RLI     Continuation-in-part of Ser. No. US 2000-488725, filed on 21 Jan 2000,
        PENDING Continuation-in-part of Ser. No. US 2000-491404, filed on 25 Jan
        2000, ABANDONED Continuation-in-part of Ser. No. US 2000-496914, filed
        on 3 Feb 2000, ABANDONED Continuation-in-part of Ser. No. US
        2000-515126, filed on 28 Feb 2000, ABANDONED Continuation-in-part of
        Ser. No. US 2000-519705, filed on 7 Mar 2000, ABANDONED
        Continuation-in-part of Ser. No. US 2000-540217, filed on 31 Mar 2000,
        ABANDONED Continuation-in-part of Ser. No. US 2000-552929, filed on 18
        Apr 2000, ABANDONED Continuation-in-part of Ser. No. US 2000-577408,
        filed on 18 May 2000, ABANDONED
PRAI    US 2001-306971P       20010721 (60)
DT      Utility
FS      APPLICATION
LN.CNT 23809
INCL    INCLM: 435/006.000
        INCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000; 435/455.000;
               530/350.000; 536/023.200
NCL     NCLM:  435/006.000
        NCLS:  435/069.100; 435/183.000; 435/320.100; 435/325.000; 435/455.000;
               530/350.000; 536/023.200
IC      [7]
        ICM: C12Q001-68
        ICS: C07H021-04; C12N009-00; C12P021-02; C12N005-06; C07K014-47;
        C12N015-85
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2      ANSWER 8 OF 104  USPATFULL on STN
AN      2004:63727  USPATFULL
TI      Novel human proteins, polynucleotides encoding them and methods of using
        the same
IN      Shimkets, Richard A., West Haven, CT, UNITED STATES
        Taupier, Raymond J., JR., East Haven, CT, UNITED STATES
        Burgess, Catherine E., Wethersfield, CT, UNITED STATES
        Zerhusen, Bryan D., Branford, CT, UNITED STATES
        Mezes, Peter S., Old Lyme, CT, UNITED STATES
        Rastelli, Luca, Guilford, CT, UNITED STATES
        Malyankar, Uriel M., Branford, CT, UNITED STATES
        Grosse, William M., Branford, CT, UNITED STATES
        Alsobrook, John P., II, Madison, CT, UNITED STATES
        Lepley, Denise M., Branford, CT, UNITED STATES
        Spytek, Kimberly Ann, New Haven, CT, UNITED STATES
        Li, Li, Cheshire, CT, UNITED STATES
        Edinger, Shlomit, New Haven, CT, UNITED STATES
        Gerlach, Valerie, Branford, CT, UNITED STATES
        Ellerman, Karen, Branford, CT, UNITED STATES
        MacDougall, John R., Hamden, CT, UNITED STATES
        Gunther, Erik, UNITED STATES
        Millet, Isabelle, Milford, CT, UNITED STATES
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          Stone, David J., Guilford, CT, UNITED STATES
          Smithson, Glennda, Guilford, CT, UNITED STATES
          Szekeres, Edward S., JR., Branford, CT, UNITED STATES
PI        US 2004048245      A1    20040311
AI        US 2001-972211     A1    20011005 (9)
PRAI      US 2000-238325P       20001005 (60)
          US 2000-238323P       20001005 (60)
          US 2000-238400P       20001006 (60)
          US 2000-238397P       20001006 (60)
          US 2000-238401P       20001006 (60)
          US 2000-238379P       20001006 (60)
          US 2000-238402P       20001006 (60)
          US 2000-238384P       20001006 (60)
          US 2000-238373P       20001006 (60)
          US 2000-238372P       20001006 (60)
          US 2000-238383P       20001006 (60)
          US 2000-238382P       20001006 (60)
          US 2001-275892P       20010314 (60)
          US 2001-296860P       20010608 (60)
DT        Utility
FS        APPLICATION
LN.CNT 8458
INCL      INCLM: 435/006.000
          INCLS: 435/069.100; 435/325.000; 435/320.100; 530/388.260; 536/023.200;
                 435/183.000
NCL       NCLM:  435/006.000
          NCLS:  435/069.100; 435/325.000; 435/320.100; 530/388.260; 536/023.200;
                 435/183.000
IC        [7]
          ICM: C12Q001-68
          ICS: C07H021-04; C12N009-00; C07K016-40; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2     ANSWER 9 OF 104   USPATFULL on STN
AN        2004:58174  USPATFULL
TI        Novel nucleic acids and polypeptides
IN        Tang, Y. Tom, San Jose, CA, UNITED STATES
          Liu, Chenghua, San Jose, CA, UNITED STATES
          Asundi, Vinod, Foster City, CA, UNITED STATES
          Wehrman, Tom, Stanford, CA, UNITED STATES
          Ren, Feiyan, Cupertino, CA, UNITED STATES
          Zhou, Ping, Cupertino, CA, UNITED STATES
          Zhao, Qing A., San Jose, CA, UNITED STATES
          Drmanac, Radoje T., Palo Alto, CA, UNITED STATES
          Zhang, Jie, Campbell, CA, UNITED STATES
          Xue, Aidong, Sunnyvale, CA, UNITED STATES
          Wang, Jian-Rui, Cupertino, CA, UNITED STATES
          Wang, Dunrui, Poway, CA, UNITED STATES
PI        US 2004044181      A1    20040304
AI        US 2003-363616     A1    20030715 (10)
          WO 2001-US27093          20010831
DT        Utility
FS        APPLICATION
LN.CNT 17667
INCL      INCLM: 530/350.000
          INCLS: 435/069.100; 435/320.100; 435/325.000; 536/023.500
NCL       NCLM:  530/350.000
          NCLS:  435/069.100; 435/320.100; 435/325.000; 536/023.500
IC        [7]
          ICM: C07K014-705
          ICS: C12P021-02; C12N005-06; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2     ANSWER 10 OF 104   USPATFULL on STN
AN        2004:44503  USPATFULL
TI        Methods of diagnosis of angiogenesis, compositions and methods of
          screening for angiogenesis modulators
IN        Murray, Richard, Cupertino, CA, UNITED STATES
          Glynne, Richard, Palo Alto, CA, UNITED STATES
          Watson, Susan R., El Cerrito, CA, UNITED STATES
          Aziz, Natasha, Palo Alto, CA, UNITED STATES
PA        Eos Biotechnology, Inc., South San Francisco, CA, UNITED STATES, 94080
          (U.S. corporation)
PI        US 2004033495      A1    20040219
AI        US 2002-211462     A1    20020801 (10)
PRAI      US 2001-310025P       20010803 (60)
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         US 2001-334244P     20011129 (60)
DT       Utility
FS       APPLICATION
LN.CNT   24599
INCL     INCLM: 435/006.000
         INCLS: 435/007.230; 435/069.100; 435/320.100; 435/325.000; 536/023.200
NCL      NCLM:  435/006.000
         NCLS:  435/007.230; 435/069.100; 435/320.100; 435/325.000; 536/023.200
IC       [7]
         ICM: C12Q001-68
         ICS: G01N033-574; C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN       2004:38683  USPATFULL
TI       Proteins and nucleic acids encoding same
IN       Edinger, Shlomit R., New Haven, CT, UNITED STATES
         MacDougall, John R., Hamden, CT, UNITED STATES
         Millet, Isabelle, Milford, CT, UNITED STATES
         Ellerman, Karen, Branford, CT, UNITED STATES
         Stone, David J., Guilford, CT, UNITED STATES
         Gerlach, Valerie, Branford, CT, UNITED STATES
         Grosse, William M., Branford, CT, UNITED STATES
         Alsobrook, John P., II, Madison, CT, UNITED STATES
         Lepley, Denise M., Branford, CT, UNITED STATES
         Rieger, Danier K., Branford, CT, UNITED STATES
         Burgess, Catherine E., Wethersfield, CT, UNITED STATES
         Casman, Stacie J., North Haven, CT, UNITED STATES
         Spytek, Kimberly A., New Haven, CT, UNITED STATES
         Boldog, Ference L., North Haven, CT, UNITED STATES
         Li, Li, Branford, CT, UNITED STATES
         Padigaru, Muralidhara, Branford, CT, UNITED STATES
         Mishra, Vishnu, Gainesville, FL, UNITED STATES
         Patturajan, Meera, Branford, CT, UNITED STATES
         Shenoy, Suresh G., Branford, CT, UNITED STATES
         Rastelli, Luca, Guilford, CT, UNITED STATES
         Tchernev, Velizar T., Branford, CT, UNITED STATES
         Vernet, Corine A.M., Branford, CT, UNITED STATES
         Zerhusen, Bryan D., Branford, CT, UNITED STATES
         Malyankar, Uriel M., Branford, CT, UNITED STATES
         Guo, Xiaojia (Sasha), Branford, CT, UNITED STATES
         Miller, Charles E., Guilford, CT, UNITED STATES
         Gangolli, Esha A., Madison, CT, UNITED STATES
         Grosse, Michael, UNITED STATES  LR
PI       US 2004029222      A1    20040212
AI       US 2002-218779     A1    20020814 (10)
RLI      Continuation of Ser. No. US 2001-995514, filed on 28 Nov 2001, ABANDONED
PRAI     US 2000-253834P       20001129 (60)
         US 2000-250926P       20001130 (60)
         US 2001-264180P       20010125 (60)
         US 2001-313656P       20010820 (60)
         US 2001-327456P       20011005 (60)
DT       Utility
FS       APPLICATION
LN.CNT   15385
INCL     INCLM: 435/069.100
         INCLS: 435/183.000; 435/320.100; 435/325.000; 530/350.000; 536/023.200;
            530/388.100; 435/007.230; 435/006.000
NCL      NCLM:  435/069.100
         NCLS:  435/183.000; 435/320.100; 435/325.000; 530/350.000; 536/023.200;
            530/388.100; 435/007.230; 435/006.000
IC       [7]
         ICM: C12Q001-68
         ICS: G01N033-574; C07H021-04; C12N009-00; C12P021-02; C12N005-06;
         C07K014-47; C07K016-30
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN       2004:38577  USPATFULL
TI       Proteins and nucleic acids encoding same
IN       Edinger, Shlomit R., New Haven, CT, UNITED STATES
         MacDougall, John R., Hamden, CT, UNITED STATES
         Millet, Isabelle, Milford, CT, UNITED STATES
         Ellerman, Karen, Branford, CT, UNITED STATES
         Stone, David J., Guilford, CT, UNITED STATES
         Gerlach, Valerie, Branford, CT, UNITED STATES
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Grosse, William M., Branford, CT, UNITED STATES
Alsobrook, John P., II, Madison, CT, UNITED STATES
Lepley, Denise M., Branford, CT, UNITED STATES
Rieger, Daniel K., Branford, CT, UNITED STATES
Burgess, Catherine E., Wethersfield, CT, UNITED STATES
Casman, Stacie J., North Haven, CT, UNITED STATES
Spytek, Kimberly A., New Haven, CT, UNITED STATES
Boldog, Ferenc L., North Haven, CT, UNITED STATES
Li, Li, Branford, CT, UNITED STATES
Padigaru, Muralidhara, Branford, CT, UNITED STATES
Mishra, Vishnu, Gainesville, FL, UNITED STATES
Patturajan, Meera, Branford, CT, UNITED STATES
Shenoy, Suresh G., Branford, CT, UNITED STATES
Rastelli, Luca, Guilford, CT, UNITED STATES
Tchernev, Velizar T., Branford, CT, UNITED STATES
Vernet, Corine A.M., Branford, CT, UNITED STATES
Zerhusen, Bryan D., Branford, CT, UNITED STATES
Malyankar, Uriel M., Branford, CT, UNITED STATES
Guo, Xiaojia, Branford, CT, UNITED STATES
Miller, Charles E., Guilford, CT, UNITED STATES
Gangolli, Esha A., Madison, CT, UNITED STATES
PI   US 2004029116   A1   20040212
AI   US 2002-87684   A1   20020301 (10)
PRAI   US 2001-313656P   20010820 (60)
        US 2001-274194P   20010308 (60)
        US 2001-327456P   20011005 (60)
DT   Utility
FS   APPLICATION
LN.CNT 15489
INCL   INCLM: 435/006.000
        INCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
            536/023.200
NCL   NCLM: 435/006.000
        NCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000; 530/350.000;
            536/023.200
IC   [7]
        ICM: C12Q001-68
        ICS: C07H021-04; C12N009-00; C12P021-02; C12N005-06; C07K014-47
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2   ANSWER 13 OF 104   USPATFULL on STN
AN   2004:31106 USPATFULL
TI   Receptors
IN   Griffin, Jennifer A, Fremont, CA, UNITED STATES
        Kallick, Deborah A, Galveston, TX, UNITED STATES
        Tribouley, Catherine M, San Francisco, CA, UNITED STATES
        Yue, Henry, Sunnyvale, CA, UNITED STATES
        Nguyen, Danniel B, San Jose, CA, UNITED STATES
        Tang, Y Tom, San Jose, CA, UNITED STATES
        Lal, Preeti G, Santa Clara, CA, UNITED STATES
        Policky, Jennifer L., San Jose, CA, UNITED STATES
        Azimzai, Yalda, Oakland, CA, UNITED STATES
        Lu, Dyung Aina M, San Jose, CA, UNITED STATES
        Graul, Richard C, San Francisco, CA, UNITED STATES
        Yao, Monique G, Carmel, IN, UNITED STATES
        Burford, Neil, Durham, CT, UNITED STATES
        Hafalia, April J A, Daly City, CA, UNITED STATES
        Baughn, Mariah R, San Leandro, CA, UNITED STATES
        Bandman, Olga, Mountain View, CA, UNITED STATES
        Arvizu, Chandra S, San Jose, CA, UNITED STATES
        Xu, Yuming, Mountain View, CA, UNITED STATES
        Gandhi, Ameena R, San Francisco, CA, UNITED STATES
        Warren, Bridget A, Encinitas, CA, UNITED STATES
        Ding, Li, Creve Coeur, MO, UNITED STATES
        Sanjanwala, Madhusudan M, Los Altos, CA, UNITED STATES
        Duggan, Brendan M, Sunnyvale, CA, UNITED STATES
        Lu, Yan, Mountain View, CA, UNITED STATES
        Yang, Junming, San Jose, CA, UNITED STATES
PI   US 2004023244   A1   20040205
AI   US 2003-311623   A1   20030516 (10)
        WO 2001-US19942   20010621
DT   Utility
FS   APPLICATION
LN.CNT 8061
INCL   INCLM: 435/006.000
        INCLS: 435/069.100; 435/183.000; 435/320.100; 435/325.000

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NCL     NCLM:  435/006.000
        NCLS:  435/069.100; 435/183.000; 435/320.100; 435/325.000
IC      [7]
        ICM: C12Q001-68
        ICS: C12N009-00; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN      2004:18871  USPATFULL
TI      Novel polynucleotides, polypeptides encoded thereby and methods of use
        thereof
IN      Anderson, David W., Plantsville, CT, UNITED STATES
        Boldog, Ferenc L., North Haven, CT, UNITED STATES
        Casman, Stacie J., North Haven, CT, UNITED STATES
        Edinger, Shlomit R., New Haven, CT, UNITED STATES
        Ellerman, Karen, Branford, CT, UNITED STATES
        Fernandes, Elma R., Branford, CT, UNITED STATES
        Gunther, Erik, Branford, CT, UNITED STATES
        Leach, Martin D., Madison, CT, UNITED STATES
        MacDougall, John R., Hamden, CT, UNITED STATES
        Padigaru, Muralidhara, Branford, CT, UNITED STATES
        Shimkets, Richard A., Guilford, CT, UNITED STATES
        Smithson, Glennda, Guilford, CT, UNITED STATES
        Spytek, Kimberly A., Ellington, CT, UNITED STATES
PI      US 2004014173      A1   20040122
AI      US 2003-384974     A1   20030310 (10)
RLI     Continuation of Ser. No. US 2002-81407, filed on 21 Feb 2002, ABANDONED
        Continuation-in-part of Ser. No. US 2000-569269, filed on 11 May 2000,
        PENDING
PRAI    US 1999-134315P     19990514 (60)
        US 2000-175744P     20000112 (60)
        US 2000-188274P     20000310 (60)
DT      Utility
FS      APPLICATION
LN.CNT 8899
INCL    INCLM: 435/069.100
        INCLS: 435/006.000; 435/320.100; 435/325.000; 530/350.000; 530/388.220;
               514/012.000; 536/023.500
NCL     NCLM:  435/069.100
        NCLS:  435/006.000; 435/320.100; 435/325.000; 530/350.000; 530/388.220;
               514/012.000; 536/023.500
IC      [7]
        ICM: C12Q001-68
        ICS: A61K038-17; C07H021-04; C12P021-02; C12N005-06; C07K014-705;
        C07K016-28
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN      2004:18738  USPATFULL
TI      Cardiotoxin molecular toxicology modeling
IN      Mendrick, Donna, Gaithersburg, MD, UNITED STATES
        Porter, Mark, Gaithersburg, MD, UNITED STATES
        Johnson, Kory, Gaithersburg, MD, UNITED STATES
        Higgs, Brandon, Gaithersburg, MD, UNITED STATES
        Castle, Arthur, Gaithersburg, MD, UNITED STATES
        Elashoff, Michael, Gaithersburg, MD, UNITED STATES
PI      US 2004014040      A1   20040122
AI      US 2002-191803     A1   20020710 (10)
PRAI    US 2001-303819P     20010710 (60)
        US 2001-305623P     20010717 (60)
        US 2002-369351P     20020403 (60)
        US 2002-377611P     20020506 (60)
DT      Utility
FS      APPLICATION
LN.CNT 15812
INCL    INCLM: 435/006.000
        INCLS: 702/020.000
NCL     NCLM:  435/006.000
        NCLS:  702/020.000
IC      [7]
        ICM: C12Q001-68
        ICS: G06F019-00; G01N033-48; G01N033-50
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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AN      2004:18355  USPATFULL
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TI      Novel nucleic acids and polypeptides
IN      Tang, Y. Tom, San Jose, CA, UNITED STATES
        Asundi, Vinod, Foster City, CA, UNITED STATES
        Wehrman, Tom, Stanford, CA, UNITED STATES
        Yang, Yonghong, San Jose, CA, UNITED STATES
        Zhang, Jie, Campbell, CA, UNITED STATES
        Zhou, Ping, Cupertino, CA, UNITED STATES
        Drmanac, Radoje T., Palo Alto, CA, UNITED STATES
        Goodrich, Ryle, Los Angeles, CA, UNITED STATES
PI      US 2004013657       A1   20040122
AI      US 2002-294006      A1   20021112 (10)
RLI     Continuation-in-part of Ser. No. WO 2002-US8964, filed on 20 Mar 2002,
        PENDING Continuation of Ser. No. US 2001-815925, filed on 22 Mar 2001,
        ABANDONED
DT      Utility
FS      APPLICATION
LN.CNT  10481
INCL    INCLM: 424/094.100
        INCLS: 435/006.000; 435/069.100; 435/183.000; 435/320.100; 435/325.000;
               530/350.000; 536/023.200; 530/388.100
NCL     NCLM:  424/094.100
        NCLS:  435/006.000; 435/069.100; 435/183.000; 435/320.100; 435/325.000;
               530/350.000; 536/023.200; 530/388.100
IC      [7]
        ICM: A61K038-43
        ICS: C12Q001-68; C07H021-04; C12N009-00; C12P021-02; C12N005-06;
        C07K016-40
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2      ANSWER 17 OF 104  USPATFULL on STN
AN      2004:7329  USPATFULL
TI      Methods of diagnosis of ovarian cancer, compositions and methods of
        screening for modulators of ovarian cancer
IN      Mack, David H., Menlo Park, CA, UNITED STATES
        Gish, Kurt C., San Francisco, CA, UNITED STATES
PA      Eos Biotechnology, Inc., South San Francisco, CA (U.S. corporation)
PI      US 2004005563       A1   20040108
AI      US 2002-173999      A1   20020617 (10)
PRAI    US 2002-372246P        20020412 (60)
        US 2001-350666P        20011113 (60)
        US 2001-315287P        20010827 (60)
        US 2001-299234P        20010618 (60)
DT      Utility
FS      APPLICATION
LN.CNT  32540
INCL    INCLM: 435/006.000
        INCLS: 435/007.230; 435/366.000; 435/183.000; 435/320.100; 435/069.100;
               536/023.200
NCL     NCLM:  435/006.000
        NCLS:  435/007.230; 435/366.000; 435/183.000; 435/320.100; 435/069.100;
               536/023.200
IC      [7]
        ICM: C12Q001-68
        ICS: G01N033-574; C07H021-04; C12N009-00; C12P021-02; C12N005-08
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2      ANSWER 18 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN      2004:535075  CAPLUS
TI      Apoptosis initiated by dependence receptors: A new paradigm for cell
        death?
AU      Porter, Alan G.; Dhakshinamoorthy, Saravanakumar
CS      Institute of Molecular and Cell Biology, Singapore
SO      BioEssays (2004), 26(6), 656-664
        CODEN: BIOEEJ; ISSN: 0265-9247
PB      John Wiley & Sons, Inc.
DT      Journal
LA      English

L2      ANSWER 19 OF 104  IFIPAT  COPYRIGHT 2004 IFI on STN DUPLICATE 4
AN      10315446  IFIPAT;IFIUDB;IFICDB
TI      NETRIN RECEPTORS; VERTEBRATE PROTEIN FOR USE IN HUMAN THERAPEUTIC AND
        DIAGNOSTICS
IN      Hinck Lindsay; Keino-Masu Kazuko; Leonardo E David; Masu Masayuki;
        Tessier-Lavigne Marc
PA      Unassigned Or Assigned To Individual (68000)
PI      US 2003059859  A1  20030327
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AI    US 2002-256702        20020927
RLI   US 2001-933261        20010820 CONTINUATION           PENDING
FI    US 2003059859         20030327
DT    Utility; Patent Application - First Publication
FS    CHEMICAL
      APPLICATION
CLMN  10


L2    ANSWER 20 OF 104  USPATFULL on STN
AN    2003:330208  USPATFULL
TI    Molecules interacting with CASL (MICAL) polynucleotides, polypeptides,
      and methods of using the same
IN    Kolodkin, Alex L., Baltimore, MD, UNITED STATES
      Terman, Jon R., Baltimore, MD, UNITED STATES
      Mao, Tiany, Parkville, MD, UNITED STATES
      Pasterkamp, Ronald J., Baltimore, MD, UNITED STATES
      Yu, Hung-Hsiang, Lynnwood, WA, UNITED STATES
PI    US 2003232419      A1   20031218
AI    US 2003-359012     A1   20030204 (10)
PRAI  US 2002-354178P       20020204 (60)
      US 2002-384302P       20020530 (60)
      US 2002-388325P       20020613 (60)
DT    Utility
FS    APPLICATION
LN.CNT 10590
INCL  INCLM: 435/191.000
      INCLS: 435/069.100; 435/320.100; 435/325.000; 530/388.260; 435/006.000;
             435/007.200; 536/023.200
NCL   NCLM:  435/191.000
      NCLS:  435/069.100; 435/320.100; 435/325.000; 530/388.260; 435/006.000;
             435/007.200; 536/023.200
IC    [7]
      ICM: C12Q001-68
      ICS: G01N033-53; G01N033-567; C12N009-06; C12P021-02; C12N005-06;
      C07K016-40; C07H021-04
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2    ANSWER 21 OF 104  USPATFULL on STN
AN    2003:289292  USPATFULL
TI    Novel proteins and nucleic acids encoding same and antibodies directed
      against these proteins
IN    Herrmann, John L., Guilford, CT, UNITED STATES
      Rastelli, Luca, Guilford, CT, UNITED STATES
      Shimkets, Richard A., Guilford, CT, UNITED STATES
PI    US 2003204052      A1   20031030
AI    US 2001-970944     A1   20011004 (9)
PRAI  US 2000-237862P       20001004 (60)
DT    Utility
FS    APPLICATION
LN.CNT 7083
INCL  INCLM: 530/350.000
      INCLS: 435/325.000; 435/320.100; 435/069.100; 536/023.500
NCL   NCLM:  530/350.000
      NCLS:  435/325.000; 435/320.100; 435/069.100; 536/023.500
IC    [7]
      ICM: C07K014-435
      ICS: C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2    ANSWER 22 OF 104  USPATFULL on STN
AN    2003:93010  USPATFULL
TI    Novel proteins and nucleic acids encoding same
IN    Taupier, Raymond J., JR., East Haven, CT, UNITED STATES
      Padigaru, Muralidhara, Branford, CT, UNITED STATES
      Rastelli, Luca, Guilford, CT, UNITED STATES
      Spaderna, Steven Kurt, Berlin, CT, UNITED STATES
      Shimkets, Richard A., West Haven, CT, UNITED STATES
      Zerhusen, Bryan D., Branford, CT, UNITED STATES
      Spytek, Kimberly Ann, New Haven, CT, UNITED STATES
      Shenoy, Suresh G., Branford, CT, UNITED STATES
      Li, Li, Cheshire, CT, UNITED STATES
      Gusev, Vladimir Y., Madison, CT, UNITED STATES
      Grosse, William M., Branford, CT, UNITED STATES
      Alsobrook, John P., II, Madison, CT, UNITED STATES
      Lepley, Denise M., Branford, CT, UNITED STATES
      Burgess, Catherine E., Wethersfield, CT, UNITED STATES
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        Gerlach, Valerie L., Branford, CT, UNITED STATES
        Ellerman, Karen, Branford, CT, UNITED STATES
        MacDougall, John R., Hamden, CT, UNITED STATES
        Stone, David J., Guilford, CT, UNITED STATES
        Smithson, Glennda, Guilford, CT, UNITED STATES
PI      US 2003064369      A1    20030403
AI      US 2001-918779     A1    20010730 (9)
PRAI    US 2000-221409P      20000728 (60)
        US 2000-222840P      20000804 (60)
        US 2000-223752P      20000808 (60)
        US 2000-223762P      20000808 (60)
        US 2000-223770P      20000808 (60)
        US 2000-223769P      20000808 (60)
        US 2000-225146P      20000814 (60)
        US 2000-225392P      20000815 (60)
        US 2000-225470P      20000815 (60)
        US 2000-225697P      20000816 (60)
        US 2001-263662P      20010201 (60)
        US 2001-281645P      20010405 (60)
DT      Utility
FS      APPLICATION
LN.CNT 11094
INCL    INCLM: 435/006.000
        INCLS: 435/069.100; 435/325.000; 435/320.100; 435/183.000; 530/350.000;
               536/023.200
NCL     NCLM:  435/006.000
        NCLS:  435/069.100; 435/325.000; 435/320.100; 435/183.000; 530/350.000;
               536/023.200
IC      [7]
        ICM: C12Q001-68
        ICS: C07H021-04; C12N009-00; C07K014-435; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2      ANSWER 23 OF 104  USPATFULL on STN
AN      2003:57482  USPATFULL
TI      Netrin receptors
IN      Tessier-Lavigne, Marc, San Francisco, CA, UNITED STATES
        Leonardo, E. David, San Francisco, CA, UNITED STATES
        Hinck, Lindsay, San Francisco, CA, UNITED STATES
        Masu, Masayuki, San Francisco, CA, UNITED STATES
        Keino-Masu, Kazuko, San Francisco, CA, UNITED STATES
PI      US 2003040046      A1    20030227
AI      US 2001-933261     A1    20010820 (9)
RLI     Division of Ser. No. US 1999-306902, filed on 7 May 1999, GRANTED, Pat.
        No. US 6277585 Division of Ser. No. US 1997-808982, filed on 19 Feb
        1997, GRANTED, Pat. No. US 5939271
DT      Utility
FS      APPLICATION
LN.CNT 1121
INCL    INCLM: 435/069.100
        INCLS: 435/007.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
NCL     NCLM:  435/069.100
        NCLS:  435/007.100; 435/320.100; 435/325.000; 530/350.000; 536/023.500
IC      [7]
        ICM: C07K014-705
        ICS: G01N033-53; C07H021-04; C12P021-02; C12N005-06
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2      ANSWER 24 OF 104  BIOSIS   COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
        DUPLICATE 5
AN      2003:482322  BIOSIS
DN      PREV200300482322
TI      Netrin binds discrete subdomains of DCC and   ***UNC5***   and mediates
        interactions between DCC and heparin.
AU      Geisbrecht, Brian V.; Dowd, Kimberly A.; Barfield, Ronald W.; Longo, Patti
        A.; Leahy, Daniel J. [Reprint Author]
CS      Dept. of Biophysics and Biophysical Chemistry, Howard Hughes Medical
        Institute, Johns Hopkins University School of Medicine, 725 N. Wolfe St.,
        Baltimore, MD, 21205, USA
        dleahy@jhmi.edu
SO      Journal of Biological Chemistry, (August 29 2003) Vol. 278, No. 35, pp.
        32561-32568. print.
        CODEN: JBCHA3. ISSN: 0021-9258.
DT      Article
LA      English
ED      Entered STN: 15 Oct 2003
```

L2   ANSWER 25 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
       DUPLICATE 6
AN   2003:281750 BIOSIS
DN   PREV200300281750
TI   Netrin 1 mediates spinal cord oligodendrocyte precursor dispersal.
AU   Tsai, Hui-Hsin; Tessier-Lavigne, Marc; Miller, Robert H. [Reprint Author]
CS   Department of Neurosciences, School of Medicine, Case Western Reserve
      University, Cleveland, OH, 44106, USA
      rhm3@po.cwru.edu
SO   Development (Cambridge), (May 2003) Vol. 130, No. 10, pp. 2095-2105.
      print.
      CODEN: DEVPED. ISSN: 0950-1991.
DT   Article
LA   English
ED   Entered STN: 19 Jun 2003
      Last Updated on STN: 19 Jun 2003

L2   ANSWER 26 OF 104 AQUASCI   COPYRIGHT 2004 FAO (On behalf of the ASFA
      Advisory Board). All rights reserved. on STN   DUPLICATE 7
AN   2003:49785 AQUASCI
DN   ASFA1 2003
TI   Cyclic AMP/GMP-dependent modulation of Ca2+ channels sets the polarity of
      nerve growth-cone turning
AU   Nishiyama, M.; Hoshino, A.; Tsai, L.; Henley, J.R.; Goshima, Y.;
      Tessier-Lavigne, M.; Poo, M.; Hong, K.
CS   Department of Biochemistry, New York University School of Medicine, New
      York, New York 10016-6402, USA
SO   Nature, (20030626) vol. 423, no. 6943, pp. 990-995.
      ISSN: 0028-0836.
DT   Journal
FS   ASFA1
LA   English
SL   English

L2   ANSWER 27 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   2003:447021 CAPLUS
DN   139:114683
TI   Unwrapping glial biology: Gcm target genes regulating glial development,
      diversification, and function
AU   Freeman, Marc R.; Delrow, Jeffrey; Kim, Junhyong; Johnson, Eric; Doe,
      Chris Q.
CS   Institutes of Neuroscience and Molecular Biology, University of Oregon,
      Eugene, OR, 97403, USA
SO   Neuron (2003), 38(4), 567-580
      CODEN: NERNET; ISSN: 0896-6273
PB   Cell Press
DT   Journal
LA   English
RE.CNT 65   THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD
            ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2   ANSWER 28 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
      DUPLICATE 8
AN   2003:450358 BIOSIS
DN   PREV200300450358
TI   Characterization of Netrin-1, Neogenin and cUNC-5H3 expression during
      chick dorsal root ganglia development.
AU   Guan, Wei; Condic, Maureen L. [Reprint Author]
CS   Interdepartmental Program in Neuroscience, School of Medicine, University
      of Utah, 20 North, 1900 East, Salt Lake City, UT, 84132-3401, USA
      maureen.condic@hsc.utah.edu
SO   Gene Expression Patterns, (June 2003) Vol. 3, No. 3, pp. 369-373. print.
      ISSN: 1567-133X (ISSN print).
DT   Article
LA   English
ED   Entered STN: 1 Oct 2003
      Last Updated on STN: 1 Oct 2003

L2   ANSWER 29 OF 104 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
      DUPLICATE
AN   2003:36076423   BIOTECHNO
TI   Quantification of expression of netrins, slits and their receptors in
      human prostate tumors
AU   Latil A.; Chene L.; Cochant-Priollet B.; Mangin P.; Fournier G.; Berthon

         P.; Cussenot O.
CS   A. Latil, UroGene, 4 rue Pierre Fontaine, F-91058, Evry Cedex, France.
         E-mail: a.latil@urogene.com
SO   International Journal of Cancer, (20 JAN 2003), 103/3 (306-315), 30
         reference(s)
         CODEN: IJCNAW ISSN: 0020-7136
DT   Journal; Article
CY   United States
LA   English
SL   English

L2   ANSWER 30 OF 104 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN   2003:780550 SCISEARCH
GA   The Genuine Article (R) Number: 717CY
TI   Expression of Netrin-1 and its two receptors DCC and UNC5H2 in the
         developing mouse lung
AU   Dalvin S; Anselmo M A; Prodhan P; Komatsuzaki K; Schnitzer J J; Kinane T B
         (Reprint)
CS   Harvard Univ, Massachusetts Gen Hosp Children, Sch Med, Dept Pediat,
         Pediat Pulm Unit, Boston, MA 02114 USA (Reprint); Harvard Univ,
         Massachusetts Gen Hosp Children, Sch Med, Pediat Surg Serv, Pediat Surg
         Res Lab, Boston, MA 02114 USA; Harvard Univ, Massachusetts Gen Hosp
         Children, Sch Med, Dept Surg, Boston, MA 02114 USA
CYA   USA
SO   GENE EXPRESSION PATTERNS, (JUN 2003) Vol. 3, No. 3, pp. 279-283.
         Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM,
         NETHERLANDS.
         ISSN: 1567-133X.
DT   Article; Journal
LA   English
REC   Reference Count: 20
         ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L2   ANSWER 31 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   2004:165855 CAPLUS
DN   140:403634
TI   Axon guidance at the Drosophila midline: genetic analysis of downstream
         signaling molecules in UNC-5 pathway
AU   Kim, Sang W.; Ho, Theresa; Goodman, Corey S.
CS   Department of Molecular and Cell Biology, College of Letters and Science,
         University of California at Berkeley, USA
SO   Berkeley Scientific (2003), 7(2), 123-128
         CODEN: BESCF6; ISSN: 1097-0967
PB   Berkeley Scientific
DT   Journal
LA   English
RE.CNT   15   THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
                  ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2   ANSWER 32 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN   2004:201260 BIOSIS
DN   PREV200400201818
TI   cAMP/cGMP - dependent modulation of calcium channels sets the polarity of
         nerve growth cone turning.
AU   Hoshino, A. [Reprint Author]; Nishiyama, M. [Reprint Author]; Tsai, L.
         [Reprint Author]; Henley, J. R.; Goshima, Y.; Tessier-Lavigne, M.; Poo,
         M.; Hong, K. [Reprint Author]
CS   BioChem., NYU Sch. of Med., New York, NY, USA
SO   Society for Neuroscience Abstract Viewer and Itinerary Planner, (2003)
         Vol. 2003, pp. Abstract No. 566.8. http://sfn.scholarone.com. e-file.
         Meeting Info.: 33rd Annual Meeting of the Society of Neuroscience. New
         Orleans, LA, USA. November 08-12, 2003. Society of Neuroscience.
DT   Conference; (Meeting)
         Conference; Abstract; (Meeting Abstract)
LA   English
ED   Entered STN: 14 Apr 2004
         Last Updated on STN: 14 Apr 2004

L2   ANSWER 33 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   2003:424280 CAPLUS
DN   139:162215
TI   Analysis of the roles of Drosophila netrin receptors frazzled and
          unc5   in axon guidance
AU   Ho, Theresa Wei-Yuan
CS   Univ. of California, Berkeley, CA, USA
SO   (2002) 160 pp. Avail.: UMI, Order No. DA3063407

DT   Dissertation
LA   English

L2   ANSWER 34 OF 104 DISSABS COPYRIGHT (C) 2004 ProQuest Information and
      Learning Company; All Rights Reserved on STN
AN   2003:25417 DISSABS   Order Number: AAI3063407
TI   Analysis of the roles of Drosophila netrin receptors frazzled and
       Unc5   in axon guidance
AU   Ho, Theresa Wei-Yuan [Ph.D.]; Goodman, Corey S. [adviser]
CS   University of California, Berkeley (0028)
SO   Dissertation Abstracts International, (2002) Vol. 63, No. 9B, p. 4069.
      Order No.: AAI3063407. 160 pages.
      ISBN: 0-493-82268-2.
DT   Dissertation
FS   DAI
LA   English

L2   ANSWER 35 OF 104 DISSABS COPYRIGHT (C) 2004 ProQuest Information and
      Learning Company; All Rights Reserved on STN
AN   2003:15097 DISSABS   Order Number: AAIMQ68785
TI   Phosphopeptide mapping of axon guidance molecules by Nano-ESI tandem mass
      spectrometry
AU   Binns, Kathleen Leslie [M.Sc.]; Pawson, Anthony J. [adviser]
CS   University of Toronto (Canada) (0779)
SO   Masters Abstracts International, (2002) Vol. 41, No. 1, p. 144. Order No.:
      AAIMQ68785. 100 pages.
      ISBN: 0-612-68785-6.
DT   Dissertation
FS   MAI
LA   English

L2   ANSWER 36 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   2002:276161 CAPLUS
DN   136:305202
TI   Protein and cDNA sequences of novel human NOV proteins and their use in
      diagnosis and disease treatment
IN   Shimkets, Richard A.; Taupier, Raymond J., Jr.; Burgess, Catherine E.;
      Zerhusen, Bryan D.; Mezes, Peter S.; Rastelli, Luca; Malyankar, Uriel M.;
      Grosse, William M.; Alsobrook, John P., II; Lepley, Denise M.; Spytek,
      Kimberly Ann; Li, Li; Edinger, Shlomit; Gerlach, Valerie; Ellerman, Karen;
      Macdougall, John; Gunther, Erik; Millet, Isabelle; Stone, David; Smithson,
      Glennda; Szekeres, Edward S., Jr.
PA   Curagen Corporation, USA
SO   PCT Int. Appl., 316 pp.
      CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002029058	A2	20020411	WO 2001-US31248	20011005
WO 2002029058	A3	20030619		

      W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
          CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
          GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
          LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,
          PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
          US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
     RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
          DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
          BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

| AU 2001096649 | A5 | 20020422 | AU 2001-96649 | 20011005 |
| EP 1349930 | A2 | 20031008 | EP 2001-977537 | 20011005 |

      R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
         IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRAI US 2000-238323P	P	20001005
US 2000-238325P	P	20001005
US 2000-238372P	P	20001006
US 2000-238373P	P	20001006
US 2000-238379P	P	20001006
US 2000-238382P	P	20001006
US 2000-238383P	P	20001006
US 2000-238384P	P	20001006
US 2000-238397P	P	20001006
US 2000-238400P	P	20001006

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US 2000-238401P    P    20001006
US 2000-238402P    P    20001006
US 2001-275892P    P    20010314
US 2001-296860P    P    20010608
WO 2001-US31248    W    20011005
```

L2   ANSWER 37 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
      DUPLICATE 10
AN   2003:13649 BIOSIS
DN   PREV200300013649
TI   Cloning of three mouse   ***Unc5***   genes and their expression patterns
      at mid-gestation.
AU   Engelkamp, Dieter [Reprint Author]
CS   Max Planck Institute for Brain Research, Deutschordenstrasse 46, 60528,
      Frankfurt, Germany
      engelkamp@mpih-frankfurt.mpg.de
SO   Mechanisms of Development, (October 2002) Vol. 118, No. 1-2, pp. 191-197.
      print.
      CODEN: MEDVE6. ISSN: 0925-4773.
DT   Article
LA   English
ED   Entered STN: 25 Dec 2002
      Last Updated on STN: 25 Dec 2002

L2   ANSWER 38 OF 104 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V.
      on STN   DUPLICATE
AN   2002166492   ESBIOBASE
TI   Isthmin is a novel secreted protein expressed as part of the Fgf-8
      synexpression group in the Xenopus midbrain-hindbrain organizer
AU   Pera E.M.; Kim J.I.; Martinez S.L.; Brechner M.; Li S.-Y.; Wessely O.; De
      Robertis E.M.
CS   E.M. De Robertis, Howard Hughes Medical Institute, Department of
      Biological Chemistry, University of California, Los Angeles, CA
      90095-1662, United States.
      E-mail: derobert@hhmi.ucla.edu
SO   Mechanisms of Development, (2002), 116/1-2 (169-172), 17 reference(s)
      CODEN: MEDVE6 ISSN: 0925-4773
PUI   S0925477302001235
DT   Journal; Article
CY   Ireland
LA   English
SL   English

L2   ANSWER 39 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN   2003:326122 BIOSIS
DN   PREV200300326122
TI   THE DIFFERENTIAL EXPRESSION OF NETRIN1 - NEOGENIN/ ***UNC5***   SIGNALS
      AFFECTS THE AXON FASCICULATIONS OF DIFFERENT SUBTYPES OF DRG NEURONS.
AU   Guan, W. [Reprint Author]; Condic, M. L. [Reprint Author]
CS   Neurosci Prg, Univ of Utah, Salt Lake City, UT, USA
SO   Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002)
      Vol. 2002, pp. Abstract No. 729.13. http://sfn.scholarone.com. cd-rom.
      Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience.
      Orlando, Florida, USA. November 02-07, 2002. Society for Neuroscience.
DT   Conference; (Meeting)
      Conference; Abstract; (Meeting Abstract)
LA   English
ED   Entered STN: 16 Jul 2003
      Last Updated on STN: 16 Jul 2003

L2   ANSWER 40 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN   2003:269569 BIOSIS
DN   PREV200300269569
TI   NETRIN - 1 IS A CHEMOREPELLENT FOR OLIGODENDROCYTE PRECURSOR CELLS.
AU   Jarjour, A. A. [Reprint Author]; Manitt, C. [Reprint Author]; Moore, S. W.
      [Reprint Author]; Thompson, K. M. [Reprint Author]; Yuh, S. [Reprint
      Author]; Kennedy, T. E. [Reprint Author]
CS   Centre for Neuronal Survival, Montreal Neurological Institute, McGill
      University, Montreal, PQ, Canada
SO   Society for Neuroscience Abstract Viewer and Itinerary Planner, (2002)
      Vol. 2002, pp. Abstract No. 128.15. http://sfn.scholarone.com. cd-rom.
      Meeting Info.: 32nd Annual Meeting of the Society for Neuroscience.
      Orlando, Florida, USA. November 02-07, 2002. Society for Neuroscience.
DT   Conference; (Meeting)
      Conference; (Meeting Poster)
      Conference; Abstract; (Meeting Abstract)

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LA    English
ED    Entered STN: 11 Jun 2003
      Last Updated on STN: 11 Jun 2003

L2    ANSWER 41 OF 104  USPATFULL on STN
AN       2001:136390  USPATFULL
TI       Netrin receptors
IN       Tessier-Lavigne, Mark, San Francisco, CA, United States
         Leonardo, E. David, San Francisco, CA, United States
         Hinck, Lindsay, San Francisco, CA, United States
         Masu, Masayuki, San Francisco, CA, United States
         Keino-Masu, Kazuko, San Francisco, CA, United States
PA       The Regents of the University of California, Oakland, CA, United States
         (U.S. corporation)
PI       US 6277585          B1    20010821
AI       US 1999-306902              19990507 (9)
RLI      Division of Ser. No. US 1997-808982, filed on 19 Feb 1997, now patented,
         Pat. No. US 5939271
DT    Utility
FS    GRANTED
LN.CNT 683
INCL     INCLM: 435/007.100
         INCLS: 530/350.000
NCL      NCLM:  435/007.100
         NCLS:  530/350.000
IC    [7]
         ICM: G01N033-53
         ICS: C07K014-435
EXF      530/350; 435/69.1; 435/320.1; 435/325; 435/7.1; 514/12
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2    ANSWER 42 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN
AN    2001:846304  CAPLUS
DN    136:67377
TI    Netrin stimulates tyrosine phosphorylation of the UNC-5 family of netrin
      receptors and induces Shp2 binding to the RCM cytodomain
AU    Tong, Jiefei; Killeen, Marie; Steven, Robert; Binns, Kathleen L.; Culotti,
      Joseph; Pawson, Tony
CS    Program in Molecular Biology and Cancer, Samuel Lunenfeld Research
      Institute, Mount Sinai Hospital, Toronto, ON, M5G 1X5, Can.
SO    Journal of Biological Chemistry (2001), 276(44), 40917-40925
      CODEN: JBCHA3; ISSN: 0021-9258
PB    American Society for Biochemistry and Molecular Biology
DT    Journal
LA    English
RE.CNT  58     THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2    ANSWER 43 OF 104  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
      DUPLICATE 12
AN    2002:26346  BIOSIS
DN    PREV200200026346
TI    Short- and long-range repulsion by the Drosophila   ***Unc5***   Netrin
      receptor.
AU    Keleman, Krystyna; Dickson, Barry J. [Reprint author]
CS    Research Institute of Molecular Pathology, Dr. Bohr-Gasse 7, A-1030,
      Vienna, Austria
      dickson@nt.imp.univie.ac.at
SO    Neuron, (November 20, 2001) Vol. 32, No. 4, pp. 605-617. print.
      ISSN: 0896-6273.
DT    Article
LA    English
ED    Entered STN: 26 Dec 2001
      Last Updated on STN: 25 Feb 2002

L2    ANSWER 44 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 13
AN    2001:625029  CAPLUS
DN    137:228104
TI    Guidance molecular of axon and its receptor
AU    Zhang, Yong; Chen, Chun; Xu, Jinlin; Gu, Jianxin
CS    Department of Biological Science and Technology, Shanghai Jiao Tong
      University, Shanghai, 200240, Peop. Rep. China
SO    Shengwu Huaxue Yu Shengwu Wuli Jinzhan (2001), 28(3), 318-321
      CODEN: SHYCD4; ISSN: 1000-3282
PB    Shengwu Huaxue Yu Shengwu Wuli Jinzhan Bianjibu
DT    Journal; General Review
```

LA   Chinese

L2   ANSWER 45 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   2000:861701 CAPLUS
DN   134:26777
TI   UNC-5 constructs and screening methods for protein-protein interactions
IN   Van Criekinge, Wim; Roelens, Ingele; Bogaert, Thierry; Verwaerde, Phillipe
PA   Devgen NV, Belg.
SO   PCT Int. Appl., 246 pp.
        CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
        PATENT NO.   KIND DATE   APPLICATION NO.   DATE
        -------------   ---- --------   ---------------   --------
PI   WO 2000073328   A2   20001207   WO 2000-EP5108   20000602
        WO 2000073328   A3   20010412
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
             CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
             ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
             LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
             SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,
             ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
             CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
        GB 2352448   A1   20010131   GB 2000-13412   20000601
        GB 2352448   B2   20020327
PRAI   GB 1999-12755   A   19990601

L2   ANSWER 46 OF 104 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
        DUPLICATE 14
AN   2000:369323 BIOSIS
DN   PREV200000369323
TI   Netrin-1 promotes thalamic axon growth and is required for proper
        development of the thalamocortical projection.
AU   Braisted, Janet E.; Catalano, Susan M.; Stimac, Robert; Kennedy, Timothy
        E.; Tessier-Lavigne, Marc; Shatz, Carla J.; O'Leary, Dennis D. M. [Reprint
        author]
CS   MNL-O, Salk Institute, 10010 North Torrey Pines Road, La Jolla, CA, 92037,
        USA
SO   Journal of Neuroscience, (August 1, 2000) Vol. 20, No. 15, pp. 5792-5801.
        print.
        CODEN: JNRSDS. ISSN: 0270-6474.
DT   Article
LA   English
ED   Entered STN: 30 Aug 2000
        Last Updated on STN: 8 Jan 2002

L2   ANSWER 47 OF 104 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN   2000:433785 SCISEARCH
GA   The Genuine Article (R) Number: 320NK
TI   The thrombospondin type 1 repeat (TSR) superfamily: Diverse proteins with
        related roles in neuronal development
AU   Adams J C; Tucker R P (Reprint)
CS   UNIV CALIF DAVIS, DEPT CELL BIOL & HUMAN ANAT, 1 SHIELDS AVE, DAVIS, CA
        95616 (Reprint); UNIV CALIF DAVIS, DEPT CELL BIOL & HUMAN ANAT, DAVIS, CA
        95616; UNIV COLL LONDON, MRC, MOL CELL BIOL LAB, LONDON, ENGLAND; UNIV
        COLL LONDON, DEPT BIOCHEM & MOL BIOL, LONDON, ENGLAND
CYA   USA; ENGLAND
SO   DEVELOPMENTAL DYNAMICS, (JUN 2000) Vol. 218, No. 2, pp. 280-299.
        Publisher: WILEY-LISS, DIV JOHN WILEY & SONS INC, 605 THIRD AVE, NEW YORK,
        NY 10158-0012.
        ISSN: 1058-8388.
DT   General Review; Journal
FS   LIFE
LA   English
REC   Reference Count: 180
        ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

L2   ANSWER 48 OF 104 USPATFULL on STN
AN   1999:96222 USPATFULL
TI   Netrin receptor
IN   Tessier-Lavigne, Mark, San Francisco, CA, United States
        Leonardo, E. David, San Francisco, CA, United States
        Hinck, Lindsay, San Francisco, CA, United States

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        Masu, Masayuki, San Francisco, CA, United States
        Keino-Masu, Kazuko, San Francisco, CA, United States
PA      The Regents of the University of California, Oakland, CA, United States
        (U.S. corporation)
PI      US 5939271              19990817
AI      US 1997-808982          19970219 (8)
DT      Utility
FS      Granted
LN.CNT  1137
INCL    INCLM: 435/007.100
        INCLS: 435/069.100; 435/320.100; 435/325.000; 536/023.500
NCL     NCLM:  435/007.100
        NCLS:  435/069.100; 435/320.100; 435/325.000; 536/023.500
IC      [6]
        ICM: G01N033-53
        ICS: C12N015-12
EXF     536/23.1; 536/23.5; 435/69.1; 435/320.1; 435/325; 435/7.1; 435/7.2;
        435/7.21
CAS INDEXING IS AVAILABLE FOR THIS PATENT.


L2      ANSWER 49 OF 104  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
        DUPLICATE 15
AN      1999:335299  BIOSIS
DN      PREV199900335299
TI      Netrin-3, a mouse homolog of human NTN2L, is highly expressed in sensory
        ganglia and shows differential binding to netrin receptors.
AU      Wang, Hao; Copeland, Neal G.; Gilbert, Debra J.; Jenkins, Nancy A.;
        Tessier-Lavigne, Marc [Reprint author]
CS      Department of Anatomy, University of California, 513 Parnassus Avenue,
        Room S-1479, San Francisco, CA, 94143-0452, USA
SO      Journal of Neuroscience, (June 15, 1999) Vol. 19, No. 12, pp. 4938-4947.
        print.
        CODEN: JNRSDS. ISSN: 0270-6474.
DT      Article
LA      English
ED      Entered STN: 24 Aug 1999
        Last Updated on STN: 24 Aug 1999


L2      ANSWER 50 OF 104  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
        DUPLICATE 16
AN      1999:317954  BIOSIS
DN      PREV199900317954
TI      Floor plate and netrin-1 are involved in the migration and survival of
        inferior olivary neurons.
AU      Bloch-Gallego, Evelyne [Reprint author]; Ezan, Frederic; Tessier-Lavigne,
        Marc; Sotelo, Constantino
CS      Institut National de la Sante et de la Recherche Medicale U106, Hopital de
        la Salpetriere, 75013, Paris, France
SO      Journal of Neuroscience, (June 1, 1999) Vol. 19, No. 11, pp. 4407-4420.
        print.
        CODEN: JNRSDS. ISSN: 0270-6474.
DT      Article
LA      English
ED      Entered STN: 17 Aug 1999
        Last Updated on STN: 17 Aug 1999


L2      ANSWER 51 OF 104  AQUASCI    COPYRIGHT 2004 FAO (On behalf of the ASFA
        Advisory Board). All rights reserved. on STN       DUPLICATE 17
AN      2000:8241  AQUASCI
DN      ASFA1 2000
TI      A Ligand-Gated Association between Cytoplasmic Domains of   ***UNC5***
        and DCC Family Receptors Converts Netrin-Induced Growth Cone Attraction to
        Repulsion
AU      Hong, Kyonsoo; Hinck, L.; Nishiyama, Makoto; Poo, Mu-ming;
        Tessier-Lavigne, M.; Stein, E.
CS      Departments of Anatomy and Biochemistry and Biophysics, Howard Hughes
        Medical Institute, University of California, San Francisco, CA 94143-0452,
        USA); E-mail: marctl@itsa.ucsf.ed
SO      Cell, (19990625) vol. 97, no. 7, pp. 927-941.
        ISSN: 0092-8674.
DT      Journal
FS      ASFA1
LA      English
SL      English


L2      ANSWER 52 OF 104  LIFESCI    COPYRIGHT 2004 CSA on STN
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AN    2000:41654  LIFESCI
TI    Semaphorin Signaling: A Little Less Per-Plexin
AU    Yu, Hung-Hsiang; Kolodkin, A.L.*
CS    Department of Neuroscience, Johns Hopkins University, School of Medicine,
      Baltimore, Maryland 21205, USA; E-mail: Kolodkin@jhmi.edu
SO    Neuron, (19990100) vol. 22, no. 1, pp. 11-14.
      ISSN: 0896-6273.
DT    Journal
TC    General Review
FS    N3
LA    English


L2    ANSWER 53 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN
AN    1998:604920  CAPLUS
DN    129:198904
TI    Cloning and cDNA sequences of vertebrate netrin receptors
IN    Tessier-Lavigne, Marc; Leonardo, E. David; Hinck, Lindsay; Masu, Masayuki;
      Keino-Masu, Kazuko
PA    The Regents of the University of California, USA
SO    PCT Int. Appl., 32 pp.
      CODEN: PIXXD2
DT    Patent
LA    English
FAN.CNT 1
      PATENT NO.          KIND  DATE          APPLICATION NO.   DATE
      ---------------     ----  --------      ---------------   --------
PI    WO 9837085          A1    19980827      WO 1998-US3143    19980219
      W:  AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
          DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, IL, IS, JP, KE, KG, KP,
          KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO,
          NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,
          UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
      RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,
          FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM,
          GA, GN, ML, MR, NE, SN, TD, TG
      US 5939271          A     19990817      US 1997-808982    19970219
      AU 9861744          A1    19980909      AU 1998-61744     19980219
      AU 718795           B2    20000420
      EP 973794           A1    20000126      EP 1998-906547    19980219
      EP 973794           B1    20021016
      R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
          IE, FI
      JP 2001505062       T2    20010417      JP 1998-536840    19980219
      AT 226216           E     20021115      AT 1998-906547    19980219
      PT 973794           T     20030331      PT 1998-906547    19980219
      ES 2185146          T3    20030416      ES 1998-906547    19980219
      US 6277585          B1    20010821      US 1999-306902    19990507
      US 2003040046       A1    20030227      US 2001-933261    20010820
      US 2003059859       A1    20030327      US 2002-256702    20020927
      JP 2004121244       A2    20040422      JP 2003-319186    20030911
PRAI  US 1997-808982      A     19970219
      JP 1998-536840      A3    19980219
      WO 1998-US3143      W     19980219
      US 1999-306902      A3    19990507
      US 2001-933261      A1    20010820
RE.CNT  1     THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2    ANSWER 54 OF 104  BIOSIS  COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
      DUPLICATE 18
AN    1998:496155  BIOSIS
DN    PREV199800496155
TI    Cloning and mapping of the UNC5C gene to human chromosome 4q21-q23.
AU    Ackerman, Susan L. [Reprint author]; Knowles, Barbara B.
CS    Jackson Lab., Bar Harbor, ME 04609, USA
SO    Genomics, (Sept. 1, 1998) Vol. 52, No. 2, pp. 205-208. print.
      CODEN: GNMCEP. ISSN: 0888-7543.
DT    Article
LA    English
OS    Genbank-AF055634; EMBL-AF055634
ED    Entered STN: 18 Nov 1998
      Last Updated on STN: 18 Nov 1998

L2    ANSWER 55 OF 104  CAPLUS  COPYRIGHT 2004 ACS on STN
AN    1998:146498  CAPLUS
DN    128:268513
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TI   Suppressors of ectopic UNC-5 growth cone steering identify eight genes
      involved in axon guidance in Caenorhabditis elegans
AU   Colavita, Antonio; Culotti, Joseph G.
CS   Samuel Lunenfeld Research Institute, Mt. Sinai Hospital, Toronto, ON, M5G
      1X5, Can.
SO   Developmental Biology (1998), 194(1), 72-85
      CODEN: DEBIAO; ISSN: 0012-1606
PB   Academic Press
DT   Journal
LA   English
RE.CNT   36   THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD
                ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2   ANSWER 56 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 19
AN   1997:285166 CAPLUS
DN   127:3728
TI   The mouse rostral cerebellar malformation gene encodes an UNC-5-like
      protein
AU   Ackerman, Susan L.; Kozak, Leslie P.; Przyborski, Stefan A.; Rund, Laurie
      A.; Boyer, Bert B.; Knowles, Barbara B.
CS   Jackson Lab., Bar Harbor, ME, 04609, USA
SO   Nature (London) (1997), 386(6627), 838-842
      CODEN: NATUAS; ISSN: 0028-0836
PB   Macmillan Magazines
DT   Journal
LA   English
RE.CNT   24   THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
                ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2   ANSWER 57 OF 104 USPATFULL on STN
AN   96:33911 USPATFULL
TI   Process for preparing foodstuffs based on reformed and cured herring roe
IN   Yamamoto, Shoji, Sherwood, Canada
PA   Keeping and MacKay Limited (K. & M.), Canada (non-U.S. corporation)
PI   US 5510133   19960423
AI   US 1994-344678   19941121 (8)
DT   Utility
FS   Granted
LN.CNT 742
INCL INCLM: 426/272.000
      INCLS: 426/092.000; 426/274.000; 426/643.000
NCL   NCLM: 426/272.000
      NCLS: 426/092.000; 426/274.000; 426/643.000
IC   [6]
      ICM: A23L001-328
EXF   426/643; 426/274; 426/513; 426/272; 426/418; 426/92

L2   ANSWER 58 OF 104 CAPLUS COPYRIGHT 2004 ACS on STN
AN   1993:513957 CAPLUS
DN   119:113957
TI   Expression of the UNC-5 guidance receptor in the touch neurons of C.
      elegans steers their axons dorsally
AU   Hamelin, Michel; Zhou, Youwen; Su, Ming Wan; Scott, Ian M.; Culotti,
      Joseph G.
CS   Samuel Lunenfeld Res. Inst., Mount Sinai Hosp., Toronto, ON, M5G 1X5, Can.
SO   Nature (London, United Kingdom) (1993), 364(6435), 327-30
      CODEN: NATUAS; ISSN: 0028-0836
DT   Journal
LA   English

L2   ANSWER 59 OF 104 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED.
      on STN
AN   1993-0056619   PASCAL
TIEN UNC-5, a transmembrane protein with immunoglobulin and thrombospondin
      type 1 domains, guides cell and pioneer axon migrations in C. elegans
AU   LEUNG-HAGESTEIJN C.; SPENCE A. M.; STERN B. D.; YOUWEN ZHOU; MING-WAN SU;
      HEDGECOCK E. M.; CULOTTI J. G.
CS   Mount Sinai hosp., Samuel Lunenfeld res. inst., div. molecular immunology
      neurobiology, Toronto ON M5G 1X5, Canada
SO   Cell : (Cambridge), (1992), 71(2), 289-299, refs. 1 p. 3/4
      ISSN: 0092-8674 CODEN: CELLB5
DT   Journal
BL   Analytic
CY   United States
LA   English
AV   INIST-16529, 354000030771050130

AN   ADG42584 protein   DGENE
TI   New NOVX gene or NOVX-specific antibody, useful for preparing a
      composition for treating or preventing a NOVX-associated disorder, e.g.,
      cancer.
IN   Herrmann J L; Rastelli L; Shimkets R A
PA   (HERR-I)   HERRMANN J L.
      (RAST-I)   RASTELLI L.
      (SHIM-I)   SHIMKETS R A.
PI   US 2003204052 A1 20031030   118p
AI   US 2001-970944   20011004
PRAI US 2000-237862P   20001004
DT   Patent
LA   English
OS   2003-900673 [82]
DESC Human transmembrane receptor   ***Unc5***   homologue #2.

AN   ADG42582 protein   DGENE
TI   New NOVX gene or NOVX-specific antibody, useful for preparing a
      composition for treating or preventing a NOVX-associated disorder, e.g.,
      cancer.
IN   Herrmann J L; Rastelli L; Shimkets R A
PA   (HERR-I)   HERRMANN J L.
      (RAST-I)   RASTELLI L.
      (SHIM-I)   SHIMKETS R A.
PI   US 2003204052 A1 20031030   118p
AI   US 2001-970944   20011004
PRAI US 2000-237862P   20001004
DT   Patent
LA   English
OS   2003-900673 [82]
DESC Mouse transmembrane receptor   ***Unc5***   homologue.

AN   ADG42583 protein   DGENE
TI   New NOVX gene or NOVX-specific antibody, useful for preparing a
      composition for treating or preventing a NOVX-associated disorder, e.g.,
      cancer.
IN   Herrmann J L; Rastelli L; Shimkets R A
PA   (HERR-I)   HERRMANN J L.
      (RAST-I)   RASTELLI L.
      (SHIM-I)   SHIMKETS R A.
PI   US 2003204052 A1 20031030   118p
AI   US 2001-970944   20011004
PRAI US 2000-237862P   20001004
DT   Patent
LA   English
OS   2003-900673 [82]
DESC Human transmembrane receptor   ***Unc5***   homologue #1.

AN   ABG61795 Protein   DGENE
TI   Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders -
IN   Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA   (CURA-N)   CURAGEN CORP.
PI   WO 2002029058 A2 20020411   316p
AI   WO 2001-US31248   20011005
PRAI US 2000-238323P   20001005
      US 2000-238325P   20001005
      US 2000-238372P   20001006
      US 2000-238373P   20001006
      US 2000-238379P   20001006
      US 2000-238382P   20001006
      US 2000-238383P   20001006
      US 2000-238384P   20001006
      US 2000-238397P   20001006
      US 2000-238400P   20001006
      US 2000-238401P   20001006
      US 2000-238402P   20001006

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         US 2001-275892P         20010314
         US 2001-296860P         20010608
DT       Patent
LA       English
OS       2002-444103 [47]
CR       N-PSDB: ABK92062
DESC     Novel    ***UNC5***    receptor-like protein.


L2       ANSWER 64 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN       AAU79939  Protein        DGENE
TI       Novel isolated NOVX polypeptide, and encoded polynucleotide, useful for
         treating cardiomyopathy, atherosclerosis, and cancer -
IN       Herrmann J L; Rastelli L; Shimkets R A
PA       (CURA-N)    CURAGEN CORP.
PI       WO 2002029038 A2 20020411                        180p
AI       WO 2001-US31377         20011004
PRAI     US 2000-237862P         20001004
DT       Patent
LA       English
OS       2002-340104 [37]
CR       N-PSDB: ABK49422
DESC     Human    ***UNC5***    -like protein NOV1.


L2       ANSWER 65 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN       ABK92105  DNA          DGENE
TI       Novel isolated polypeptide, designated NOVX, useful for treating or
         preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
         metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN       Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
         L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
         L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
         Stone D; Smithson G; Szekeres E S
PA       (CURA-N)    CURAGEN CORP.
PI       WO 2002029058 A2 20020411                        316p
AI       WO 2001-US31248         20011005
PRAI     US 2000-238323P         20001005
         US 2000-238325P         20001005
         US 2000-238372P         20001006
         US 2000-238373P         20001006
         US 2000-238379P         20001006
         US 2000-238382P         20001006
         US 2000-238383P         20001006
         US 2000-238384P         20001006
         US 2000-238397P         20001006
         US 2000-238400P         20001006
         US 2000-238401P         20001006
         US 2000-238402P         20001006
         US 2001-275892P         20010314
         US 2001-296860P         20010608
DT       Patent
LA       English
OS       2002-444103 [47]
DESC     Novel    ***UNC5***    receptor-like protein, reverse primer #4.


L2       ANSWER 66 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN       ABK92104  DNA          DGENE
TI       Novel isolated polypeptide, designated NOVX, useful for treating or
         preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
         metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN       Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
         L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
         L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
         Stone D; Smithson G; Szekeres E S
PA       (CURA-N)    CURAGEN CORP.
PI       WO 2002029058 A2 20020411                        316p
AI       WO 2001-US31248         20011005
PRAI     US 2000-238323P         20001005
         US 2000-238325P         20001005
         US 2000-238372P         20001006
         US 2000-238373P         20001006
         US 2000-238379P         20001006
         US 2000-238382P         20001006
         US 2000-238383P         20001006
         US 2000-238384P         20001006
         US 2000-238397P         20001006
         US 2000-238400P         20001006
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        US 2000-238401P          20001006
        US 2000-238402P          20001006
        US 2001-275892P          20010314
        US 2001-296860P          20010608
DT    Patent
LA    English
OS    2002-444103 [47]
DESC  Novel   ***UNC5***   receptor-like protein, probe #4.


L2    ANSWER 67 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN    ABK92103  DNA         DGENE
TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN    Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA    (CURA-N)    CURAGEN CORP.
PI    WO 2002029058 A2 20020411                    316p
AI    WO 2001-US31248        20011005
PRAI  US 2000-238323P        20001005
      US 2000-238325P        20001005
      US 2000-238372P        20001006
      US 2000-238373P        20001006
      US 2000-238379P        20001006
      US 2000-238382P        20001006
      US 2000-238383P        20001006
      US 2000-238384P        20001006
      US 2000-238397P        20001006
      US 2000-238400P        20001006
      US 2000-238401P        20001006
      US 2000-238402P        20001006
      US 2001-275892P        20010314
      US 2001-296860P        20010608
DT    Patent
LA    English
OS    2002-444103 [47]
DESC  Novel   ***UNC5***   receptor-like protein, forward primer #4.


L2    ANSWER 68 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN    ABK92102  DNA         DGENE
TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN    Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA    (CURA-N)    CURAGEN CORP.
PI    WO 2002029058 A2 20020411                    316p
AI    WO 2001-US31248        20011005
PRAI  US 2000-238323P        20001005
      US 2000-238325P        20001005
      US 2000-238372P        20001006
      US 2000-238373P        20001006
      US 2000-238379P        20001006
      US 2000-238382P        20001006
      US 2000-238383P        20001006
      US 2000-238384P        20001006
      US 2000-238397P        20001006
      US 2000-238400P        20001006
      US 2000-238401P        20001006
      US 2000-238402P        20001006
      US 2001-275892P        20010314
      US 2001-296860P        20010608
DT    Patent
LA    English
OS    2002-444103 [47]
DESC  Novel   ***UNC5***   receptor-like protein, reverse primer #3.


L2    ANSWER 69 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN    ABK92101  DNA         DGENE
TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
```

```
IN      Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
        L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
        L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
        Stone D; Smithson G; Szekeres E S
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029058 A2 20020411                      316p
AI      WO 2001-US31248        20011005
PRAI    US 2000-238323P        20001005
        US 2000-238325P        20001005
        US 2000-238372P        20001006
        US 2000-238373P        20001006
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        US 2000-238400P        20001006
        US 2000-238401P        20001006
        US 2000-238402P        20001006
        US 2001-275892P        20010314
        US 2001-296860P        20010608
DT      Patent
LA      English
OS      2002-444103 [47]
DESC    Novel    ***UNC5***    receptor-like protein, probe #3.


L2      ANSWER 70 OF 104   DGENE   COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK92100   DNA         DGENE
TI      Novel isolated polypeptide, designated NOVX, useful for treating or
        preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
        metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN      Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
        L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
        L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
        Stone D; Smithson G; Szekeres E S
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029058 A2 20020411                      316p
AI      WO 2001-US31248        20011005
PRAI    US 2000-238323P        20001005
        US 2000-238325P        20001005
        US 2000-238372P        20001006
        US 2000-238373P        20001006
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        US 2000-238382P        20001006
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        US 2000-238400P        20001006
        US 2000-238401P        20001006
        US 2000-238402P        20001006
        US 2001-275892P        20010314
        US 2001-296860P        20010608
DT      Patent
LA      English
OS      2002-444103 [47]
DESC    Novel    ***UNC5***    receptor-like protein, forward primer #3.


L2      ANSWER 71 OF 104   DGENE   COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK92099   DNA         DGENE
TI      Novel isolated polypeptide, designated NOVX, useful for treating or
        preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
        metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN      Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
        L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
        L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
        Stone D; Smithson G; Szekeres E S
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029058 A2 20020411                      316p
AI      WO 2001-US31248        20011005
PRAI    US 2000-238323P        20001005
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        US 2000-238372P        20001006
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              US 2001-275892P        20010314
              US 2001-296860P        20010608
DT        Patent
LA        English
OS        2002-444103 [47]
DESC      Novel    ***UNC5***    receptor-like protein, reverse primer #2.


L2        ANSWER 72 OF 104   DGENE   COPYRIGHT 2004 THOMSON DERWENT on STN
AN        ABK92098  DNA          DGENE
TI        Novel isolated polypeptide, designated NOVX, useful for treating or
          preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
          metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN        Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
          L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
          L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
          Stone D; Smithson G; Szekeres E S
PA        (CURA-N)      CURAGEN CORP.
PI        WO 2002029058 A2 20020411                   316p
AI        WO 2001-US31248        20011005
PRAI      US 2000-238323P        20001005
          US 2000-238325P        20001005
          US 2000-238372P        20001006
          US 2000-238373P        20001006
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          US 2000-238397P        20001006
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          US 2000-238402P        20001006
          US 2001-275892P        20010314
          US 2001-296860P        20010608
DT        Patent
LA        English
OS        2002-444103 [47]
DESC      Novel    ***UNC5***    receptor-like protein, probe #2.


L2        ANSWER 73 OF 104   DGENE   COPYRIGHT 2004 THOMSON DERWENT on STN
AN        ABK92097  DNA          DGENE
TI        Novel isolated polypeptide, designated NOVX, useful for treating or
          preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
          metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN        Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
          L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
          L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
          Stone D; Smithson G; Szekeres E S
PA        (CURA-N)      CURAGEN CORP.
PI        WO 2002029058 A2 20020411                   316p
AI        WO 2001-US31248        20011005
PRAI      US 2000-238323P        20001005
          US 2000-238325P        20001005
          US 2000-238372P        20001006
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          US 2000-238401P        20001006
          US 2000-238402P        20001006
          US 2001-275892P        20010314
          US 2001-296860P        20010608
DT        Patent
LA        English
OS        2002-444103 [47]
DESC      Novel    ***UNC5***    receptor-like protein, forward primer #2.


L2        ANSWER 74 OF 104   DGENE   COPYRIGHT 2004 THOMSON DERWENT on STN
AN        ABK92096  DNA          DGENE
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TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN    Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA    (CURA-N)    CURAGEN CORP.
PI    WO 2002029058 A2 20020411                   316p
AI    WO 2001-US31248        20011005
PRAI  US 2000-238323P        20001005
      US 2000-238325P        20001005
      US 2000-238372P        20001006
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      US 2000-238401P        20001006
      US 2000-238402P        20001006
      US 2001-275892P        20010314
      US 2001-296860P        20010608
DT    Patent
LA    English
OS    2002-444103 [47]
DESC  Novel   ***UNC5***   receptor-like protein, reverse primer #1.


L2    ANSWER 75 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN    ABK92095  DNA        DGENE
TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN    Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA    (CURA-N)    CURAGEN CORP.
PI    WO 2002029058 A2 20020411                   316p
AI    WO 2001-US31248        20011005
PRAI  US 2000-238323P        20001005
      US 2000-238325P        20001005
      US 2000-238372P        20001006
      US 2000-238373P        20001006
      US 2000-238379P        20001006
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      US 2000-238397P        20001006
      US 2000-238400P        20001006
      US 2000-238401P        20001006
      US 2000-238402P        20001006
      US 2001-275892P        20010314
      US 2001-296860P        20010608
DT    Patent
LA    English
OS    2002-444103 [47]
DESC  Novel   ***UNC5***   receptor-like protein, probe #1.


L2    ANSWER 76 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN    ABK92094  DNA        DGENE
TI    Novel isolated polypeptide, designated NOVX, useful for treating or
      preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
      metabolic, neurodegenerative, immune and hematopoietic disorders  -
IN    Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
      L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
      L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
      Stone D; Smithson G; Szekeres E S
PA    (CURA-N)    CURAGEN CORP.
PI    WO 2002029058 A2 20020411                   316p
AI    WO 2001-US31248        20011005
PRAI  US 2000-238323P        20001005
      US 2000-238325P        20001005
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        US 2000-238402P        20001006
        US 2001-275892P        20010314
        US 2001-296860P        20010608
DT      Patent
LA      English
OS      2002-444103 [47]
DESC    Novel    ***UNC5***    receptor-like protein, forward primer #1.


L2      ANSWER 77 OF 104   DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK92062  DNA          DGENE
TI      Novel isolated polypeptide, designated NOVX, useful for treating or
        preventing cancer, diabetes, obesity, dyslipidaemia, anorexia, and
        metabolic, neurodegenerative, immune and hematopoietic disorders   -
IN      Shimkets R A; Taupier R J; Burgess C E; Zerhusen B D; Mezes P S; Rastelli
        L; Malyankar U M; Grosse W M; Alsobrook J P; Lepley D M; Spytek K A; Li
        L; Edinger S; Gerlach V; Ellerman K; Macdougall J; Gunther E; Millet I;
        Stone D; Smithson G; Szekeres E S
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029058 A2 20020411                    316p
AI      WO 2001-US31248        20011005
PRAI    US 2000-238323P        20001005
        US 2000-238325P        20001005
        US 2000-238372P        20001006
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        US 2000-238401P        20001006
        US 2000-238402P        20001006
        US 2001-275892P        20010314
        US 2001-296860P        20010608
DT      Patent
LA      English
OS      2002-444103 [47]
CR      P-PSDB: ABG61795
DESC    DNA encoding novel    ***UNC5***    receptor-like protein.


L2      ANSWER 78 OF 104   DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK49430  DNA          DGENE
TI      Novel isolated NOVX polypeptide, and encoded polynucleotide, useful for
        treating cardiomyopathy, atherosclerosis, and cancer -
IN      Herrmann J L; Rastelli L; Shimkets R A
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029038 A2 20020411                    180p
AI      WO 2001-US31377        20011004
PRAI    US 2000-237862P        20001004
DT      Patent
LA      English
OS      2002-340104 [37]
DESC    Human    ***UNC5***    -like NOV1 reverse PCR primer Ag1395.


L2      ANSWER 79 OF 104   DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK49429  DNA          DGENE
TI      Novel isolated NOVX polypeptide, and encoded polynucleotide, useful for
        treating cardiomyopathy, atherosclerosis, and cancer -
IN      Herrmann J L; Rastelli L; Shimkets R A
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029038 A2 20020411                    180p
AI      WO 2001-US31377        20011004
PRAI    US 2000-237862P        20001004
DT      Patent
LA      English
OS      2002-340104 [37]
DESC    Human    ***UNC5***    -like NOV1 probe Ag1395.


L2      ANSWER 80 OF 104   DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
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AN      ABK49428  DNA        DGENE
TI      Novel isolated NOVX polypeptide, and encoded polynucleotide, useful for
        treating cardiomyopathy, atherosclerosis, and cancer -
IN      Herrmann J L; Rastelli L; Shimkets R A
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029038 A2 20020411                        180p
AI      WO 2001-US31377        20011004
PRAI    US 2000-237862P        20001004
DT      Patent
LA      English
OS      2002-340104 [37]
DESC    Human    ***UNC5***   -like NOV1 forward PCR primer Ag1395.


L2      ANSWER 81 OF 104  DGENE  COPYRIGHT 2004 THOMSON DERWENT on STN
AN      ABK49422  DNA        DGENE
TI      Novel isolated NOVX polypeptide, and encoded polynucleotide, useful for
        treating cardiomyopathy, atherosclerosis, and cancer -
IN      Herrmann J L; Rastelli L; Shimkets R A
PA      (CURA-N)    CURAGEN CORP.
PI      WO 2002029038 A2 20020411                        180p
AI      WO 2001-US31377        20011004
PRAI    US 2000-237862P        20001004
DT      Patent
LA      English
OS      2002-340104 [37]
CR      P-PSDB: AAU79939
DESC    DNA encoding human    ***UNC5***   -like protein NOV1.


L2      ANSWER 82 OF 104  FEDRIP COPYRIGHT 2004 NTIS on STN
AN      2004:201922  FEDRIP
NR      CRISP 5R01NS42823-02
TI      Molecular Mechanism of Axon Guidance by Second Messenger
SF      Principal Investigator: HONG, KYONSOO; KYONSOO.HONG@MED.NYU.EDU, NEW YORK
        UNIVERSITY, 550 FIRST AVENUE
CSP     NEW YORK UNIVERSITY SCHOOL OF MEDICINE, NEW YORK, NEW YORK
CSS     Supported By: NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE
DB      2007 (/15/02)
FYR     2003
DE      2005 (/31/07)
FU      Noncompeting Continuation (Type 5)
FS      National Institutes of Health


L2      ANSWER 83 OF 104  FEDRIP COPYRIGHT 2004 NTIS on STN
AN      2004:200998  FEDRIP
NR      CRISP 5R01NS39572-04
TI      CHEMOREPULSION MEDIATED NETRIN RECEPTORS UNC5H AND DCC
SF      Principal Investigator: HINCK, LINDSAY E; UNIV OF CALIFORNIA SAN
        FRANCISCO, 513 PARNASSUS AVENUE
CSP     UNIVERSITY OF CALIFORNIA SANTA CRUZ, SANTA CRUZ, CALIFORNIA
CSS     Supported By: NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE
DB      2003 (/09/00)
FYR     2003
DE      2002 (/29/04)
FU      Noncompeting Continuation (Type 5)
FS      National Institutes of Health


L2      ANSWER 84 OF 104  FEDRIP COPYRIGHT 2004 NTIS on STN
AN      2004:176660  FEDRIP
NR      CRISP 5R01GM40613-13
TI      Molecular Genetics of Drosophila Neural Development
SF      Principal Investigator: THOMAS, JOHN B; JTHOMAS@SALK.EDU, SALK INST FOR
        BIOLOGICAL STUDIES, PO BOX 85800
CSP     SALK INSTITUTE FOR BIOLOGICAL STUDIES, SAN DIEGO, CALIFORNIA
CSS     Supported By: NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES
DB      2004 (/01/90)
FYR     2003
DE      2003 (/31/06)
FU      Noncompeting Continuation (Type 5)
FS      National Institutes of Health


L2      ANSWER 85 OF 104    GENBANK.RTM.  COPYRIGHT 2004 on STN

LOCUS (LOC):             AY510109       GenBank (R)
GenBank ACC. NO. (GBN): AY510109
GenBank VERSION (VER):  AY510109.1  GI:46095340
CAS REGISTRY NO. (RN):  676382-19-7
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SEQUENCE LENGTH (SQL):    1557
MOLECULE TYPE (CI):       mRNA; linear
DIVISION CODE (CI):       Primates
DATE (DATE):              19 Apr 2004
DEFINITION (DEF):         Homo sapiens ZU5 and death domain-containing inhibitor
                          of NF-kB mRNA, complete cds.
SOURCE:                   Homo sapiens (human)
 ORGANISM (ORGN):         Homo sapiens
                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                          Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini;
                          Hominidae; Homo
REFERENCE:                1  (bases 1 to 1557)
   AUTHOR (AU):           Zhang,J.; Xu,L.G.; Han,K.J.; Shu,H.B.
   TITLE (TI):            Identification of a ZU5 and death domain-containing
                          inhibitor of NF-kappaB
   JOURNAL (SO):          J. Biol. Chem., 279 (17), 17819-17825 (2004)
REFERENCE:                2  (bases 1 to 1557)
   AUTHOR (AU):           Zhang,J.; Xu,L.-G.; Han,K.-J.; Shu,H.-B.
   TITLE (TI):            Direct Submission
   JOURNAL (SO):          Submitted (21-DEC-2003) Immunology, National Jewish
                          Center, 1400 Jackson Street, Denver, CO 80206, USA

FEATURES (FEAT):
   Feature Key        Location                    Qualifier
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                                            /db-xref="taxon:9606"
CDS                1..1557                  /note="ZUD"
                                            /codon-start=1
                                            /product="ZU5 and death
                                            domain-containing inhibitor of
                                            NF-kB"
                                            /protein-id="AAS80165.1"
                                            /db-xref="GI:46095341"
                                            /translation="MCPQESSFQPSQFLLLVGVP
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                                            FSAREVDHRGGCLMLQDTGISLLIPPGAVAVGRQ
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                                            SPVVACGPHGASFLKPCTLTFKHCAEQPSHARTY
                                            SSNTTLLDAKVWRPLGRPGAHASR
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                                            CSPLVPGQSHLQLRIYFLNNTPCA
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                                            LTYISEGWENVDDSSCQLVPHLHI
                                            WHGKCPFRSFCFRRKAADENEDCSALTNEIIVTM
                                            HTFQDGLETKYMEILRFQASEEES
                                            WAAPPPVSQPPPCNRLPPELFEQLRMLLEPNSIT
                                            GNDWRGLASHLGLCGMKIRFLSCQ
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                                            SAIQNYLSGTHGGSPGPERGGARD
                                            NQGLELDEKL"
misc-feature       322..558                 /note="present in ZO-1 and
                                            Unc5-like netrin receptors;
                                            Region: ZU5 domain"
misc-feature       1267..1473               /note="Region: death domain"

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   121 ggggcctgct ggacactgaa tggtcaagag gaaccagtgt cccagcctac cccccaacta
   181 gaaaatgagg tctcaaggca gcacctgcca gccacactgc cagagatggt tgccttctac
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   361 ggcatctcct tgctcatccc accaggtgct gtggctgtgg ccgccagga gcgggtgtct
   421 ttgatcctgg tgtgggacct gtcggacgcc ccatcgctgt cccaagccca ggggctggta
   481 agccctgtgg tggcatgtgg ccccccatggg gcctccttcc tgaagccttg cactctcacg
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   601 ctggatgcca aggtatggag gcccctgggg cggccggggg cccacgcctc ccgggatgag
   661 tgtcgcatcc acctctccca cttcagcctc tacacctgtg tgctggaggc acctgtgggg
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   781 tcccatctgc aactgcgtat ctacttcctc aacaacacgc cctgcgccct gcagtgggca
   841 ctgaccaacg agcagcccca tggtgggcgc ctgcgtgggc cctgccagct cttcgacttc
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1321 ggcatgaaga tccggttcct gtcctgccag cgcagcccg cagcggccat cctggagttg
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L2   ANSWER 86 OF 104   GENBANK.RTM.   COPYRIGHT 2004 on STN

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GenBank VERSION (VER):   AY510108.1 GI:46095338
CAS REGISTRY NO. (RN):   676382-17-5
SEQUENCE LENGTH (SQL):   1557
MOLECULE TYPE (CI):   mRNA; linear
DIVISION CODE (CI):   Rodents
DATE (DATE):   19 Apr 2004
DEFINITION (DEF):   Mus musculus ZU5 and death domain-containing inhibitor
                         of NF-kB mRNA, complete cds.
SOURCE: Mus musculus (house mouse)
 ORGANISM (ORGN):   Mus musculus
                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                         Euteleostomi; Mammalia; Eutheria; Rodentia;
                         Sciurognathi; Muridae; Murinae; Mus
REFERENCE: 1 (bases 1 to 1557)
   AUTHOR (AU):   Zhang,J.; Xu,L.G.; Han,K.J.; Shu,H.B.
   TITLE (TI):   Identification of a ZU5 and death domain-containing
                         inhibitor of NF-kappaB
   JOURNAL (SO):   J. Biol. Chem., 279 (17), 17819-17825 (2004)
REFERENCE: 2 (bases 1 to 1557)
   AUTHOR (AU):   Zhang,J.; Xu,L.-G.; Han,K.-J.; Shu,H.-B.
   TITLE (TI):   Direct Submission
   JOURNAL (SO):   Submitted (21-DEC-2003) Immunology, National Jewish
                         Center, 1400 Jackson Street, Denver, CO 80206, USA

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CAS REGISTRY NO. (RN):   588653-90-1
SEQUENCE LENGTH (SQL):   3672
MOLECULE TYPE (CI):      mRNA; linear
DIVISION CODE (CI):      Rodents
DATE (DATE):             21 Oct 2003
DEFINITION (DEF):        Mus musculus unc-5 homolog B (C. elegans), mRNA (cDNA
                         clone MGC:66787 IMAGE:6417563), complete cds.
KEYWORDS (ST):           MGC
SOURCE:                  Mus musculus (house mouse)
 ORGANISM (ORGN):        Mus musculus
                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                         Euteleostomi; Mammalia; Eutheria; Rodentia;
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NUCLEIC ACID COUNT (NA): 783 a    1137 c   1074 g    678 t
COMMENT:
     Contact: MGC help desk
     Email: cgapbs-r@mail.nih.gov
     Tissue Procurement: Dr. Jim Lin, University of Iowa
     cDNA Library Preparation: M. Bento Soares, University of Iowa
     cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
     DNA Sequencing by: Sequencing Group at the Stanford Human Genome
     Center, Stanford University School of Medicine, Stanford, CA  94305
     Web site:       http://www-shgc.stanford.edu
     Contact:  (Dickson, Mark) mcd@paxil.stanford.edu
     Dickson, M., Schmutz, J., Grimwood, J., Rodriquez, A., and Myers,
     R. M.
     Clone distribution: MGC clone distribution information can be found
     through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
     Series: IRAK Plate: 125 Row: o Column: 12
     This clone was selected for full length sequencing because it
     passed the following selection criteria: matched mRNA gi: 21218439.
REFERENCE:               1 (bases 1 to 3672)
  AUTHOR (AU):           Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
                         Derge,J.G.; Klausner,R.D.; Collins,F.S.; Wagner,L.;
                         Shenmen,C.M.; Schuler,G.D.; Altschul,S.F.; Zeeberg,B.;
                         Buetow,K.H.; Schaefer,C.F.; Bhat,N.K.; Hopkins,R.F.;
                         Jordan,H.; Moore,T.; Max,S.I.; Wang,J.; Hsieh,F.;
                         Diatchenko,L.; Marusina,K.; Farmer,A.A.; Rubin,G.M.;
                         Hong,L.; Stapleton,M.; Soares,M.B.; Bonaldo,M.F.;
                         Casavant,T.L.; Scheetz,T.E.; Brownstein,M.J.;
                         Usdin,T.B.; Toshiyuki,S.; Carninci,P.; Prange,C.;
                         Raha,S.S.; Loquellano,N.A.; Peters,G.J.; Abramson,R.D.;
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          Mullahy,S.J.; Bosak,S.A.; McEwan,P.J.; McKernan,K.J.;
          Malek,J.A.; Gunaratne,P.H.; Richards,S.; Worley,K.C.;
          Hale,S.; Garcia,A.M.; Gay,L.J.; Hulyk,S.W.;
          Villalon,D.K.; Muzny,D.M.; Sodergren,E.J.; Lu,X.;
          Gibbs,R.A.; Fahey,J.; Helton,E.; Ketteman,M.; Madan,A.;
          Rodrigues,S.; Sanchez,A.; Whiting,M.; Madan,A.;
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          Blakesley,R.W.; Touchman,J.W.; Green,E.D.;
          Dickson,M.C.; Rodriguez,A.C.; Grimwood,J.; Schmutz,J.;
          Myers,R.M.; Butterfield,Y.S.; Krzywinski,M.I.;
          Skalska,U.; Smailus,D.E.; Schnerch,A.; Schein,J.E.;
          Jones,S.J.; Marra,M.A.
  TITLE (TI):   Generation and initial analysis of more than 15,000
                   full-length human and mouse cDNA sequences
  JOURNAL (SO):   Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
                   (2002)
  OTHER SOURCE (OS): CA 138:84325
REFERENCE: 2   (bases 1 to 3672)
  AUTHOR (AU):   Strausberg,R.
  TITLE (TI):   Direct Submission
  JOURNAL (SO):   Submitted (03-SEP-2003) National Institutes of Health,
                   Mammalian Gene Collection (MGC), Cancer Genomics
                   Office, National Cancer Institute, 31 Center Drive,
                   Room 11A03, Bethesda, MD 20892-2590, USA

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L2   ANSWER 88 OF 104   GENBANK.RTM.   COPYRIGHT 2004 on STN

LOCUS (LOC):	BC058084 GenBank (R)
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GenBank VERSION (VER):	BC058084.1 GI:34784158
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SEQUENCE LENGTH (SQL):	3844
MOLECULE TYPE (CI):	mRNA; linear
DIVISION CODE (CI):	Rodents
DATE (DATE):	21 Oct 2003
DEFINITION (DEF):	Mus musculus unc-5 homolog A (C. elegans), mRNA (cDNA clone MGC:66671 IMAGE:6813463), complete cds.
KEYWORDS (ST):	MGC
SOURCE:	Mus musculus (house mouse)
ORGANISM (ORGN):	Mus musculus
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NUCLEIC ACID COUNT (NA): 705 a   1298 c   1094 g   747 t
COMMENT:
       Contact: MGC help desk
       Email: cgapbs-r@mail.nih.gov
       Tissue Procurement: Dr. Jim Lin, University of Iowa
       cDNA Library Preparation: M. Bento Soares, University of Iowa
       cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
       DNA Sequencing by: Genome Sequence Centre,
       BC Cancer Agency, Vancouver, BC, Canada
       info@bcgsc.bc.ca
       Steven Jones, Jennifer Asano, Ian Bosdet, Yaron Butterfield,
       Susanna Chan, Readman Chiu, Chris Fjell, Erin Garland, Ran Guin,
       Letticia Hsiao, Martin Krzywinski, Reta Kutsche, Oliver Lee, Soo
       Sen Lee, Victor Ling, Carrie Mathewson, Candice McLeavy, Steven
       Ness, Pawan Pandoh, Anna-Liisa Prabhu, Parvaneh Saeedi, Jacqueline
       Schein, Duane Smailus, Michael Smith, Lorraine Spence, Jeff Stott,
       Michael Thorne, Miranada Tsai, Natasja van den Bosch, Jill Vardy,
       George Yang, Scott Zuyderduyn, Marco Marra.
       Clone distribution: MGC clone distribution information can be found
       through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
       Series: IRAK Plate: 126 Row: b Column: 11
       This clone was selected for full length sequencing because it
       passed the following selection criteria: matched mRNA gi: 23346570.
REFERENCE: 1 (bases 1 to 3844)
   AUTHOR (AU):   Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
                             Derge,J.G.; Klausner,R.D.; Collins,F.S.; Wagner,L.;
                             Shenmen,C.M.; Schuler,G.D.; Altschul,S.F.; Zeeberg,B.;
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                            Jones,S.J.; Marra,M.A.
    TITLE (TI):   Generation and initial analysis of more than 15,000
                            full-length human and mouse cDNA sequences
    JOURNAL (SO):   Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
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    OTHER SOURCE (OS):   CA 138:84325
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    AUTHOR (AU):   Strausberg,R.
    TITLE (TI):   Direct Submission
    JOURNAL (SO):   Submitted (08-SEP-2003) National Institutes of Health,
                            Mammalian Gene Collection (MGC), Cancer Genomics
                            Office, National Cancer Institute, 31 Center Drive,
                            Room 11A03, Bethesda, MD 20892-2590, USA

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DIVISION CODE (CI):       Other vertebrates
DATE (DATE):              5 Aug 2003
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REFERENCE:                1
  AUTHOR (AU):            Abe,S.; Doi,M.; Nakagawa,T.
  TITLE (TI):             Structural and phylogenetic analyses of the SH3BP4
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  JOURNAL (SO):           Unpublished
REFERENCE:                2
  AUTHOR (AU):            Abe,S.; Nakagawa,T.; Wang,P.
  TITLE (TI):             Danio rerio cDNA for SH3BP4 long form, complete CDS
  JOURNAL (SO):           Published Only in Database (2003)
REFERENCE:                3  (bases 1 to 3314)
  AUTHOR (AU):            Abe,S.
  TITLE (TI):             Direct Submission
  JOURNAL (SO):           Submitted (14-JUL-2003) Shunnosuke Abe, Ehime
                          University, Laboratory of Molecular Cell Biology,
                          Department of Bioresources, Faculty of Agriculture;
                          3-5-7 Tarumi, Matsuyama City, Ehime Prefecture 7908566,
                          Japan (E-mail:abe@mcb.agr.ehime-u.ac.jp,
                          URL:http://web-mcb.agr.ehime-u.ac.jp/,
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  TITLE (TI):   Danio rerio mRNA for tr-SH3BP4 (truncated SH3 binding
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  JOURNAL (SO):   Published Only in Database (2003)
REFERENCE: 2 (bases 1 to 2808)
  AUTHOR (AU):   Abe,S.
  TITLE (TI):   Direct Submission
  JOURNAL (SO):   Submitted (04-MAR-2003) Shunnosuke Abe, Ehime
                           University, Laboratory of Molecular Cell Biology,
                           Department of Bioresources, Faculty of Agriculture;
                           3-5-7 Tarumi, Matsuyama City, Ehime Prefecture 7908566,
                           Japan (E-mail:abe@mcb.agr.ehime-u.ac.jp,
                           URL:http://web-mcb.agr.ehime-u.ac.jp/,
                           Tel:81-89-946-9853, Fax:81-89-977-4364)

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DATE (DATE):              6 Jun 2003
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   AUTHOR (AU):           Guan,W.; Condic,M.L.
   TITLE (TI):            Characterization of Netrin-1, Neogenin and cUNC-5H3
                          expression during chick dorsal root ganglia development
   JOURNAL (SO):          Gene Expr. Patterns, 3, 369-373 (2003)
   OTHER SOURCE (OS):     CA 139:320285
REFERENCE:                2  (bases 1 to 2962)
   AUTHOR (AU):           Guan,W.; Condic,M.L.
   TITLE (TI):            Direct Submission
   JOURNAL (SO):          Submitted (26-NOV-2002) Neurobiology & Anatomy,
                          University of Utah, 20 North, 1900 East, Salt Lake
                          City, UT 84132-3401, USA
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L2   ANSWER 92 OF 104   GENBANK.RTM.   COPYRIGHT 2004 on STN

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GenBank ACC. NO. (GBN): BC048162
GenBank VERSION (VER): BC048162.1 GI:29145031
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DIVISION CODE (CI):   Rodents
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DEFINITION (DEF):   Mus musculus unc-5 homolog B (C. elegans), mRNA (cDNA
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NUCLEIC ACID COUNT (NA): 783 a   1137 c   1074 g   678 t
COMMENT:
     Contact: MGC help desk

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  AUTHOR (AU):   Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
                            Derge,J.G.; Klausner,R.D.; Collins,F.S.; Wagner,L.;
                            Shenmen,C.M.; Schuler,G.D.; Altschul,S.F.; Zeeberg,B.;
                            Buetow,K.H.; Schaefer,C.F.; Bhat,N.K.; Hopkins,R.F.;
                            Jordan,H.; Moore,T.; Max,S.I.; Wang,J.; Hsieh,F.;
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                            Skalska,U.; Smailus,D.E.; Schnerch,A.; Schein,J.E.;
                            Jones,S.J.; Marra,M.A.
  TITLE (TI):   Generation and initial analysis of more than 15,000
                            full-length human and mouse cDNA sequences
  JOURNAL (SO):   Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
                            (2002)
  OTHER SOURCE (OS):   CA 138:84325
REFERENCE: 2 (bases 1 to 3672)
  AUTHOR (AU):   Strausberg,R.
  TITLE (TI):   Direct Submission
  JOURNAL (SO):   Submitted (06-MAR-2003) National Institutes of Health,
                            Mammalian Gene Collection (MGC), Cancer Genomics
                            Office, National Cancer Institute, 31 Center Drive,
                            Room 11A03, Bethesda, MD 20892-2590, USA

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NUCLEIC ACID COUNT (NA): 577 a   569 c   585 g   539 t
COMMENT:
    Contact: MGC help desk
    Email: cgapbs-r@mail.nih.gov
    Tissue Procurement: Life Technologies, Inc.
    cDNA Library Preparation: Life Technologies, Inc.
    cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

REFERENCE: 1 (bases 1 to 2270)
    AUTHOR (AU):   Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
                             Derge,J.G.; Klausner,R.D.; Collins,F.S.; Wagner,L.;
                             Shenmen,C.M.; Schuler,G.D.; Altschul,S.F.; Zeeberg,B.;
                             Buetow,K.H.; Schaefer,C.F.; Bhat,N.K.; Hopkins,R.F.;
                             Jordan,H.; Moore,T.; Max,S.I.; Wang,J.; Hsieh,F.;
                             Diatchenko,L.; Marusina,K.; Farmer,A.A.; Rubin,G.M.;
                             Hong,L.; Stapleton,M.; Soares,M.B.; Bonaldo,M.F.;
                             Casavant,T.L.; Scheetz,T.E.; Brownstein,M.J.;
                             Usdin,T.B.; Toshiyuki,S.; Carninci,P.; Prange,C.;
                             Raha,S.S.; Loquellano,N.A.; Peters,G.J.; Abramson,R.D.;
                             Mullahy,S.J.; Bosak,S.A.; McEwan,P.J.; McKernan,K.J.;
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                             Hale,S.; Garcia,A.M.; Gay,L.J.; Hulyk,S.W.;
                             Villalon,D.K.; Muzny,D.M.; Sodergren,E.J.; Lu,X.;
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                             Young,A.C.; Shevchenko,Y.; Bouffard,G.G.;
                             Blakesley,R.W.; Touchman,J.W.; Green,E.D.;
                             Dickson,M.C.; Rodriguez,A.C.; Grimwood,J.; Schmutz,J.;
                             Myers,R.M.; Butterfield,Y.S.; Krzywinski,M.I.;
                             Skalska,U.; Smailus,D.E.; Schnerch,A.; Schein,J.E.;
                             Jones,S.J.; Marra,M.A.
    TITLE (TI):   Generation and initial analysis of more than 15,000
                             full-length human and mouse cDNA sequences
    JOURNAL (SO):   Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
                             (2002)
    OTHER SOURCE (OS):   CA 138:84325
REFERENCE: 2 (bases 1 to 2270)
    AUTHOR (AU):   Strausberg,R.
    TITLE (TI):   Direct Submission
    JOURNAL (SO):   Submitted (16-DEC-2002) National Institutes of Health,
                             Mammalian Gene Collection (MGC), Cancer Genomics
                             Office, National Cancer Institute, 31 Center Drive,
                             Room 11A03, Bethesda, MD 20892-2590, USA

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COMMENT:
     cDNA library was prepared and sequenced in Mouse Genome
     Encyclopedia Project of Genome Exploration Research Group in Riken
     Genomic Sciences Center and Genome Science Laboratory in RIKEN.
     Division of Experimental Animal Research in Riken contributed to
     prepare mouse tissues.
     Please visit our web site for further details.
     URL:http://genome.gsc.riken.jp/
     URL:http://fantom.gsc.riken.jp/.
REFERENCE: 1
   AUTHOR (AU):   Carninci,P.; Hayashizaki,Y.
   TITLE (TI):   High-efficiency full-length cDNA cloning
   JOURNAL (SO):   Meth. Enzymol., 303, 19-44 (1999)
   OTHER SOURCE (OS): CA 131:318304
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   AUTHOR (AU):   Carninci,P.; Shibata,Y.; Hayatsu,N.; Sugahara,Y.;
                     Shibata,K.; Itoh,M.; Konno,H.; Okazaki,Y.;
                     Muramatsu,M.; Hayashizaki,Y.
   TITLE (TI):   Normalization and subtraction of cap-trapper-selected
                     cDNAs to prepare full-length cDNA libraries for rapid
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   JOURNAL (SO):   Genome Res., 10 (10), 1617-1630 (2000)
   OTHER SOURCE (OS): CA 134:305920
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   AUTHOR (AU):   Shibata,K.; Itoh,M.; Aizawa,K.; Nagaoka,S.; Sasaki,N.;
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                     Kitsunai,T.; Tashiro,H.; Itoh,M.; Sumi,N.; Ishii,Y.;
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                     Hayashizaki,Y.
   TITLE (TI):   RIKEN integrated sequence analysis (RISA)
                     system--384-format sequencing pipeline with 384
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   JOURNAL (SO):   Genome Res., 10 (11), 1757-1771 (2000)
REFERENCE: 4
   AUTHOR (AU):   The RIKEN Genome Exploration Research Group Phase II
                     Team; the FANTOM Consortium.
   TITLE (TI):   Functional annotation of a full-length mouse cDNA
                     collection
   JOURNAL (SO):   Nature, 409, 685-690 (2001)
   OTHER SOURCE (OS): CA 134:203311
REFERENCE: 5
   AUTHOR (AU):   The FANTOM Consortium; the RIKEN Genome Exploration
                     Research Group Phase I & II Team.
   TITLE (TI):   Analysis of the mouse transcriptome based on functional
                     annotation of 60,770 full-length cDNAs
   JOURNAL (SO):   Nature, 420, 563-573 (2002)
   OTHER SOURCE (OS): CA 138:131939
REFERENCE: 6 (bases 1 to 3790)
   AUTHOR (AU):   Adachi,J.; Aizawa,K.; Akimura,T.; Arakawa,T.; Bono,H.;
                     Carninci,P.; Fukuda,S.; Furuno,M.; Hanagaki,T.;
                     Hara,A.; Hashizume,W.; Hayashida,K.; Hayatsu,N.;
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L2   ANSWER 95 OF 104   GENBANK.RTM. COPYRIGHT 2004 on STN

Sciurognathi; Muridae; Murinae; Mus
COMMENT:
    cDNA library was prepared and sequenced in Mouse Genome
    Encyclopedia Project of Genome Exploration Research Group in Riken
    Genomic Sciences Center and Genome Science Laboratory in RIKEN.
    Division of Experimental Animal Research in Riken contributed to
    prepare mouse tissues.
    Please visit our web site for further details.
    URL:http://genome.gsc.riken.jp/
    URL:http://fantom.gsc.riken.jp/.

REFERENCE: 1
  AUTHOR (AU):   Carninci,P.; Hayashizaki,Y.
  TITLE (TI):   High-efficiency full-length cDNA cloning
  JOURNAL (SO):   Meth. Enzymol., 303, 19-44 (1999)
  OTHER SOURCE (OS):   CA 131:318304
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  AUTHOR (AU):   Carninci,P.; Shibata,Y.; Hayatsu,N.; Sugahara,Y.;
                                Shibata,K.; Itoh,M.; Konno,H.; Okazaki,Y.;
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  TITLE (TI):   Normalization and subtraction of cap-trapper-selected
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  JOURNAL (SO):   Genome Res., 10 (10), 1617-1630 (2000)
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  TITLE (TI):   RIKEN integrated sequence analysis (RISA)
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  JOURNAL (SO):   Genome Res., 10 (11), 1757-1771 (2000)
REFERENCE: 4
  AUTHOR (AU):   The RIKEN Genome Exploration Research Group Phase II
                                Team; the FANTOM Consortium.
  TITLE (TI):   Functional annotation of a full-length mouse cDNA
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  JOURNAL (SO):   Nature, 409, 685-690 (2001)
  OTHER SOURCE (OS):   CA 134:203311
REFERENCE: 5
  AUTHOR (AU):   The FANTOM Consortium; the RIKEN Genome Exploration
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  TITLE (TI):   Analysis of the mouse transcriptome based on functional
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  JOURNAL (SO):   Nature, 420, 563-573 (2002)
  OTHER SOURCE (OS):   CA 138:131939
REFERENCE: 6 (bases 1 to 2358)
  AUTHOR (AU):   Adachi,J.; Aizawa,K.; Akimura,T.; Arakawa,T.; Bono,H.;
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                                Hayashizaki,Y.
  TITLE (TI):   Direct Submission
  JOURNAL (SO):   Submitted (16-JUL-2001) Yoshihide Hayashizaki, The
                                Institute of Physical and Chemical Research (RIKEN),
                                Laboratory for Genome Exploration Research Group, RIKEN
                                Genomic Sciences Center (GSC), RIKEN Yokohama
                                Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
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SEQUENCE LENGTH (SQL):  3376
MOLECULE TYPE (CI):     mRNA; linear
DIVISION CODE (CI):     High-Throughput CDNA Sequencing
DATE (DATE):            3 Apr 2004
DEFINITION (DEF):       Mus musculus 9.5 days embryo parthenogenote cDNA, RIKEN
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                        ***unc5***   homolog (C. elegans) 3, full insert
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                        HTC; CAP trapper
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COMMENT:
        cDNA library was prepared and sequenced in Mouse Genome
        Encyclopedia Project of Genome Exploration Research Group in Riken
        Genomic Sciences Center and Genome Science Laboratory in RIKEN.
        Division of Experimental Animal Research in Riken contributed to
        prepare mouse tissues.
        Tissues were provided by Dr. Tomohiro Kono (Department of Animal
        Science, Tokyo University of Agriculture, 1737 Hunako Atsugi City,
        Kanagawa Prefecture, Japan) whose assistance we gratefully
        acknowledge.
        Please visit our web site for further details.
        URL:http://genome.gsc.riken.jp/
        URL:http://fantom.gsc.riken.jp/.
REFERENCE:              1
   AUTHOR (AU):         Carninci,P.; Hayashizaki,Y.
   TITLE (TI):          High-efficiency full-length cDNA cloning
   JOURNAL (SO):        Meth. Enzymol., 303, 19-44 (1999)
   OTHER SOURCE (OS):   CA 131:318304
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                        Muramatsu,M.; Hayashizaki,Y.
   TITLE (TI):          Normalization and subtraction of cap-trapper-selected
                        cDNAs to prepare full-length cDNA libraries for rapid
                        discovery of new genes
   JOURNAL (SO):        Genome Res., 10 (10), 1617-1630 (2000)
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                        Hayashizaki,Y.
   TITLE (TI):          RIKEN integrated sequence analysis (RISA)
                        system--384-format sequencing pipeline with 384
                        multicapillary sequencer
   JOURNAL (SO):        Genome Res., 10 (11), 1757-1771 (2000)
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   AUTHOR (AU):         The RIKEN Genome Exploration Research Group Phase II
                        Team; the FANTOM Consortium.
   TITLE (TI):          Functional annotation of a full-length mouse cDNA
                        collection
   JOURNAL (SO):        Nature, 409, 685-690 (2001)
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   TITLE (TI):          Analysis of the mouse transcriptome based on functional
                        annotation of 60,770 full-length cDNAs
   JOURNAL (SO):        Nature, 420, 563-573 (2002)
   OTHER SOURCE (OS):   CA 138:131939
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   AUTHOR (AU):         Adachi,J.; Aizawa,K.; Akimura,T.; Arakawa,T.; Bono,H.;
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                    Hayashizaki,Y.
  TITLE (TI):   Direct Submission
  JOURNAL (SO):   Submitted (16-JUL-2001) Yoshihide Hayashizaki, The
                    Institute of Physical and Chemical Research (RIKEN),
                    Laboratory for Genome Exploration Research Group, RIKEN
                    Genomic Sciences Center (GSC), RIKEN Yokohama
                    Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
                    Kanagawa 230-0045, Japan (E-mail:genome-
                    res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/,
                    Tel:81-45-503-9222, Fax:81-45-503-9216)

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DIVISION CODE (CI):       High-Throughput cDNA Sequencing
DATE (DATE):              3 Apr 2004
DEFINITION (DEF):         Mus musculus 16 days neonate cerebellum cDNA, RIKEN
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                          sequence.
KEYWORDS (ST):            HTC; CAP trapper
SOURCE:                   Mus musculus (house mouse)
 ORGANISM (ORGN):         Mus musculus
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COMMENT:
     cDNA library was prepared and sequenced in Mouse Genome
     Encyclopedia Project of Genome Exploration Research Group in Riken
     Genomic Sciences Center and Genome Science Laboratory in RIKEN.
     Division of Experimental Animal Research in Riken contributed to
     prepare mouse tissues.
     Please visit our web site for further details.
     URL:http://genome.gsc.riken.jp/
     URL:http://fantom.gsc.riken.jp/.
REFERENCE:               1
  AUTHOR (AU):           Carninci,P.; Hayashizaki,Y.
  TITLE (TI):            High-efficiency full-length cDNA cloning
  JOURNAL (SO):          Meth. Enzymol., 303, 19-44 (1999)
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  TITLE (TI):            Normalization and subtraction of cap-trapper-selected
                         cDNAs to prepare full-length cDNA libraries for rapid
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  TITLE (TI):            RIKEN integrated sequence analysis (RISA)
                         system--384-format sequencing pipeline with 384
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  JOURNAL (SO):          Genome Res., 10 (11), 1757-1771 (2000)
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  AUTHOR (AU):           The RIKEN Genome Exploration Research Group Phase II
                         Team; the FANTOM Consortium.
  TITLE (TI):            Functional annotation of a full-length mouse cDNA
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  TITLE (TI):             Analysis of the mouse transcriptome based on functional
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  JOURNAL (SO):           Nature, 420, 563-573 (2002)
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  AUTHOR (AU):            Adachi,J.; Aizawa,K.; Akimura,T.; Arakawa,T.; Bono,H.;
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  TITLE (TI):             Direct Submission
  JOURNAL (SO):           Submitted (16-JUL-2001) Yoshihide Hayashizaki, The
                          Institute of Physical and Chemical Research (RIKEN),
                          Laboratory for Genome Exploration Research Group, RIKEN
                          Genomic Sciences Center (GSC), RIKEN Yokohama
                          Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
                          Kanagawa 230-0045, Japan (E-mail:genome-
                          res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/,
                          Tel:81-45-503-9222, Fax:81-45-503-9216)
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DIVISION CODE (CI):       High-Throughput CDNA Sequencing
DATE (DATE):              3 Apr 2004
DEFINITION (DEF):         Mus musculus 12 days embryo embryonic body between
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                          enriched library, clone:9430077M22 product:  ***unc5***
                          homolog (C. elegans) 3, full insert sequence.
KEYWORDS (ST):            HTC; CAP trapper
SOURCE:                   Mus musculus (house mouse)
 ORGANISM (ORGN):         Mus musculus
                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                          Euteleostomi; Mammalia; Eutheria; Rodentia;
                          Sciurognathi; Muridae; Murinae; Mus
COMMENT:
     cDNA library was prepared and sequenced in Mouse Genome
     Encyclopedia Project of Genome Exploration Research Group in Riken
     Genomic Sciences Center and Genome Science Laboratory in RIKEN.
     Division of Experimental Animal Research in Riken contributed to
     prepare mouse tissues.
     Please visit our web site for further details.
     URL:http://genome.gsc.riken.jp/
     URL:http://fantom.gsc.riken.jp/.
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  AUTHOR (AU):            Carninci,P.; Hayashizaki,Y.
  TITLE (TI):             High-efficiency full-length cDNA cloning
  JOURNAL (SO):           Meth. Enzymol., 303, 19-44 (1999)
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                          Shibata,K.; Itoh,M.; Konno,H.; Okazaki,Y.;
                          Muramatsu,M.; Hayashizaki,Y.
        TITLE (TI):       Normalization and subtraction of cap-trapper-selected
                          cDNAs to prepare full-length cDNA libraries for rapid
                          discovery of new genes
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                          multicapillary sequencer
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                          Hayashizaki,Y.
        TITLE (TI):       Direct Submission
        JOURNAL (SO):     Submitted (16-JUL-2001) Yoshihide Hayashizaki, The
                          Institute of Physical and Chemical Research (RIKEN),
                          Laboratory for Genome Exploration Research Group, RIKEN
                          Genomic Sciences Center (GSC), RIKEN Yokohama
                          Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
                          Kanagawa 230-0045, Japan (E-mail:genome-
                          res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/,
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L2   ANSWER 99 OF 104   GENBANK.RTM. COPYRIGHT 2004 on STN

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     cDNA library was prepared and sequenced in Mouse Genome
     Encyclopedia Project of Genome Exploration Research Group in Riken
     Genomic Sciences Center and Genome Science Laboratory in RIKEN.
     Division of Experimental Animal Research in Riken contributed to
     prepare mouse tissues.
     Please visit our web site for further details.
     URL:http://genome.gsc.riken.jp/
     URL:http://fantom.gsc.riken.jp/.
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  AUTHOR (AU):                Carninci,P.; Hayashizaki,Y.
  TITLE (TI):                 High-efficiency full-length cDNA cloning
  JOURNAL (SO):               Meth. Enzymol., 303, 19-44 (1999)
  OTHER SOURCE (OS):          CA 131:318304
REFERENCE:                    2
  AUTHOR (AU):                Carninci,P.; Shibata,Y.; Hayatsu,N.; Sugahara,Y.;
                              Shibata,K.; Itoh,M.; Konno,H.; Okazaki,Y.;
                              Muramatsu,M.; Hayashizaki,Y.
  TITLE (TI):                 Normalization and subtraction of cap-trapper-selected
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                              discovery of new genes
  JOURNAL (SO):               Genome Res., 10 (10), 1617-1630 (2000)
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  AUTHOR (AU):                Shibata,K.; Itoh,M.; Aizawa,K.; Nagaoka,S.; Sasaki,N.;
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  TITLE (TI):                 RIKEN integrated sequence analysis (RISA)
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  JOURNAL (SO):               Genome Res., 10 (11), 1757-1771 (2000)
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  AUTHOR (AU):                The RIKEN Genome Exploration Research Group Phase II
                              Team; the FANTOM Consortium.
  TITLE (TI):                 Functional annotation of a full-length mouse cDNA
                              collection
  JOURNAL (SO):               Nature, 409, 685-690 (2001)
  OTHER SOURCE (OS):          CA 134:203311
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  AUTHOR (AU):                The FANTOM Consortium; the RIKEN Genome Exploration
                              Research Group Phase I & II Team.
  TITLE (TI):                 Analysis of the mouse transcriptome based on functional
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  JOURNAL (SO):               Nature, 420, 563-573 (2002)
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  AUTHOR (AU):                Adachi,J.; Aizawa,K.; Akimura,T.; Arakawa,T.; Bono,H.;
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                              Tomaru,A.; Toya,T.; Yasunishi,A.; Muramatsu,M.;
                              Hayashizaki,Y.
  TITLE (TI):                 Direct Submission
  JOURNAL (SO):               Submitted (16-JUL-2001) Yoshihide Hayashizaki, The
                              Institute of Physical and Chemical Research (RIKEN),
                              Laboratory for Genome Exploration Research Group, RIKEN
                              Genomic Sciences Center (GSC), RIKEN Yokohama
                              Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
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COMMENT:
      Contact: MGC help desk
      Email: cgapbs-r@mail.nih.gov
      Tissue Procurement: Jeffrey E. Green, M.D.
      cDNA Library Preparation: Life Technologies, Inc.
      cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
      DNA Sequencing by: Institute for Systems Biology
      http://www.systemsbiology.org
      contact: amadan@systemsbiology.org
      Anup Madan, Jessica Fahey, Erin Helton, Mark Ketteman, Anuradha
      Madan, Stephanie Rodrigues, Amy Sanchez and Michelle Whiting
      Clone distribution: MGC clone distribution information can be found
      through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
      Series: IRAK Plate: 18 Row: k Column: 4
      This clone was selected for full length sequencing because it
      passed the following selection criteria: matched mRNA gi: 25121951.
REFERENCE:                1  (bases 1 to 6420)
  AUTHOR (AU):            Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
                          Derge,J.G.; Klausner,R.D.; Collins,F.S.; Wagner,L.;
                          Shenmen,C.M.; Schuler,G.D.; Altschul,S.F.; Zeeberg,B.;
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                          Jordan,H.; Moore,T.; Max,S.I.; Wang,J.; Hsieh,F.;
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                          Casavant,T.L.; Scheetz,T.E.; Brownstein,M.J.;
                          Usdin,T.B.; Toshiyuki,S.; Carninci,P.; Prange,C.;
                          Raha,S.S.; Loquellano,N.A.; Peters,G.J.; Abramson,R.D.;
                          Mullahy,S.J.; Bosak,S.A.; McEwan,P.J.; McKernan,K.J.;
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                          Dickson,M.C.; Rodriguez,A.C.; Grimwood,J.; Schmutz,J.;
                          Myers,R.M.; Butterfield,Y.S.; Krzywinski,M.I.;
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                          Jones,S.J.; Marra,M.A.
  TITLE (TI):             Generation and initial analysis of more than 15,000
                          full-length human and mouse cDNA sequences
  JOURNAL (SO):           Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
                          (2002)
  OTHER SOURCE (OS):      CA 138:84325
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  AUTHOR (AU):            Strausberg,R.
  TITLE (TI):             Direct Submission
  JOURNAL (SO):           Submitted (14-JAN-2002) National Institutes of Health,
                          Mammalian Gene Collection (MGC), Cancer Genomics
                          Office, National Cancer Institute, 31 Center Drive,
                          Room 11A03, Bethesda, MD 20892-2590, USA

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L2   ANSWER 101 OF 104   GENBANK.RTM.   COPYRIGHT 2004 on STN

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Sequencing Center (NISC),
Gaithersburg, Maryland;
Web site: http://www.nisc.nih.gov/
Contact: nisc_mgc@nhgri.nih.gov
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  AUTHOR (AU):   Strausberg,R.L.; Feingold,E.A.; Grouse,L.H.;
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  TITLE (TI):   Generation and initial analysis of more than 15,000
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  JOURNAL (SO):   Proc. Natl. Acad. Sci. U.S.A., 99 (26), 16899-16903
                        (2002)
  OTHER SOURCE (OS):   CA 138:84325
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  JOURNAL (SO):   Submitted (12-JUN-2001) National Institutes of Health,
                        Mammalian Gene Collection (MGC), Cancer Genomics
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LOCUS (LOC):   BG938104   GenBank (R)
GenBank ACC. NO. (GBN): BG938104
GenBank VERSION (VER):   BG938104.1 GI:14337476
CAS REGISTRY NO. (RN):   340854-24-2
SEQUENCE LENGTH (SQL):   460
MOLECULE TYPE (CI):   mRNA; linear
DIVISION CODE (CI):   Expressed sequence tag
DATE (DATE):   11 Jun 2001
DEFINITION (DEF):   1Abo11D02 Bovine Abomasum cDNA Library Bos taurus cDNA
                         5', mRNA sequence.
SOURCE: cow.
  ORGANISM (ORGN):   Bos taurus
                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                         Euteleostomi; Mammalia; Eutheria; Cetartiodactyla;
                         Ruminantia; Pecora; Bovoidea; Bovidae; Bovinae; Bos
NUCLEIC ACID COUNT (NA): 129 a   84 c   123 g   124 t
COMMENT:
        Contact: Dr. Stephen Moore
        . Beef Genomics Laboratory
        Dept of AFNS, University of Alberta
        410 Agri/For, Dept of AFNS, U of A, Edmonton, AB, T6G 2P5, Canada
        Tel: 780 492 0169
        Fax: 780 492 4265
        Email: smoore@afns.ualberta.ca
        The sequence best matches gb:HS34B21 (Human DNA sequence from clone
        34B21 on chromosome 6p12.1-21.1. Contains part of a gene for a
        novel protein with ZU5 domain similar to part of Tight Junction
        Protein ZO1 (TJP1) and   ***UNC5***   Homologs, the gene for a novel BZR
                         alue
        of 1e-40
        PCR PRimers
        FORWARD: M13 Forward
        BACKWARD: M13 Reverse
        Seq primer: T3 primer
        High quality sequence stop: 460.
REFERENCE: 1 (bases 1 to 460)
  AUTHOR (AU):   Moore,S.S.; Hansen,C.; Li,C.; Fu,A.; Meng,Y.; Li,G.
  TITLE (TI):   cDNA's from bovine abomasum tissue
  JOURNAL (SO):   Unpublished (2001)

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GenBank ACC. NO. (GBN):   AF129475
GenBank VERSION (VER):    AF129475.1  GI:6002701
CAS REGISTRY NO. (RN):    243886-90-0
SEQUENCE LENGTH (SQL):    600
MOLECULE TYPE (CI):       mRNA; linear
DIVISION CODE (CI):       Other vertebrates
DATE (DATE):              1 Oct 1999
DEFINITION (DEF):         Petromyzon marinus netrin receptor   ***UNC5***   (
                          ***UNC5***  ) mRNA, partial cds.
SOURCE:                   sea lamprey.
  ORGANISM (ORGN):        Petromyzon marinus
                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
                          Hyperoartia; Petromyzontiformes; Petromyzontidae;
                          Petromyzon
NUCLEIC ACID COUNT (NA):  156 a   150 c   171 g   123 t
REFERENCE:                1  (bases 1 to 600)
  AUTHOR (AU):            Shifman,M.I.; Selzer,M.E.
  TITLE (TI):             Expression of the netrin receptor UNC-5 selectively in
                          poorly regenerating neurons following spinal
                          transection in lamprey
  JOURNAL (SO):           Neurorehabil. Neural Repair (1999) In press
REFERENCE:                2  (bases 1 to 600)
  AUTHOR (AU):            Shifman,M.I.; Selzer,M.E.
  TITLE (TI):             Direct Submission
  JOURNAL (SO):           Submitted (18-FEB-1999) Neurology, University of
                          Pennsylvania, 452 Stemmler Hall, 36th Street and
                          Hamilton Walk, Philadelphia, PA 19104, USA

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LOCUS (LOC):              CEU62639      GenBank (R)
GenBank ACC. NO. (GBN):   U62639
GenBank VERSION (VER):    U62639.1  GI:4097486
CAS REGISTRY NO. (RN):    224328-12-5
SEQUENCE LENGTH (SQL):    3935
MOLECULE TYPE (CI):       DNA; linear
DIVISION CODE (CI):       Invertebrates
DATE (DATE):              26 Jan 1999
DEFINITION (DEF):         Caenorhabditis elegans lipoprotein receptor precursor
                          (lr) gene, complete cds.
SOURCE:                   Caenorhabditis elegans.
  ORGANISM (ORGN):        Caenorhabditis elegans
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